

Washoe County Development Application

Your entire application is a public record. If you have a concern about releasing personal information, please contact Planning and Building staff at 775.328.6100.

Project Information		Staff Assigned Case No.: _____	
Project Name:			
Project Description:			
Project Address:			
Project Area (acres or square feet):			
Project Location (with point of reference to major cross streets AND area locator):			
Assessor's Parcel No.(s):	Parcel Acreage:	Assessor's Parcel No.(s):	Parcel Acreage:
Indicate any previous Washoe County approvals associated with this application: Case No.(s).			
Applicant Information (attach additional sheets if necessary)			
Property Owner:		Professional Consultant:	
Name: Caleb Associates LLC		Name:	
Address: 8745 Technology Way F		Address:	
Reno NV	Zip: 89521		Zip:
Phone: 775-357-4640	Fax:	Phone:	Fax:
Email: kevin@starwesthomes.com		Email:	
Cell:	Other:	Cell:	Other:
Contact Person: Kevin Ward		Contact Person:	
Applicant/Developer:		Other Persons to be Contacted:	
Name:		Name:	
Address:		Address:	
	Zip:		Zip:
Phone:	Fax:	Phone:	Fax:
Email:		Email:	
Cell:	Other:	Cell:	Other:
Contact Person:		Contact Person:	
For Office Use Only			
Date Received:	Initial:	Planning Area:	
County Commission District:		Master Plan Designation(s):	
CAB(s):		Regulatory Zoning(s):	

Applicant Name: STAR WEST HOMES

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA)
)
COUNTY OF WASHOE)

I, Kevin E. Ward

(please print name)

being duly sworn, depose and say that I am the owner* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true, and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Building.

(A separate Affidavit must be provided by each property owner named in the title report.)

Assessor Parcel Number(s): 085-461-02

Printed Name Kevin E. Ward

Signed *Kevin E. Ward*

Address 8745 Technology Way, Ste F

Reno, NV 89521

Subscribed and sworn to before me this 1st day of January, 2021.

[Handwritten signature]

Notary Public in and for said county and state

My commission expires: July 1, 2022

(Notary Stamp)



*Owner refers to the following: (Please mark appropriate box.)

- Owner
- Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
- Power of Attorney (Provide copy of Power of Attorney.)
- Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- Property Agent (Provide copy of record document indicating authority to sign.)
- Letter from Government Agency with Stewardship

Applicant Name: STAR WEST HOMES

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA)
)
COUNTY OF WASHOE)

I, Kevin E. Ward

(please print name)

being duly sworn, depose and say that I am the owner* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true, and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Building.

(A separate Affidavit must be provided by each property owner named in the title report.)

Assessor Parcel Number(s): 085-461-03

Printed Name Kevin E. Ward

Signed *Kevin E. Ward*

Address 8745 Technology Way, Ste F

Reno, NV 89521

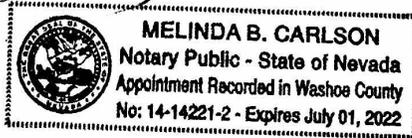
Subscribed and sworn to before me this 1st day of January, 2021

Washoe, Nevada

(Notary Stamp)

Notary Public in and for said county and state

My commission expires: July 1, 2022



*Owner refers to the following: (Please mark appropriate box.)

- Owner
- Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
- Power of Attorney (Provide copy of Power of Attorney.)
- Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- Property Agent (Provide copy of record document indicating authority to sign.)
- Letter from Government Agency with Stewardship

Applicant Name: STAR WEST HOMES

The receipt of this application at the time of submittal does not guarantee the application complies with all requirements of the Washoe County Development Code, the Washoe County Master Plan or the applicable area plan, the applicable regulatory zoning, or that the application is deemed complete and will be processed.

STATE OF NEVADA)
)
COUNTY OF WASHOE)

Kevin E. Ward

I, _____
(please print name)

being duly sworn, depose and say that I am the owner* of the property or properties involved in this application as listed below and that the foregoing statements and answers herein contained and the information herewith submitted are in all respects complete, true, and correct to the best of my knowledge and belief. I understand that no assurance or guarantee can be given by members of Planning and Building.

(A separate Affidavit must be provided by each property owner named in the title report.)

Assessor Parcel Number(s): 085-461-04

Printed Name Kevin E. Ward

Signed *Kevin E. Ward*

Address 8745 Technology Way, Ste F

Reno, NV 89521

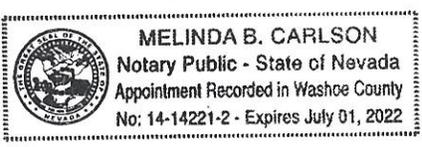
Subscribed and sworn to before me this 20th day of January, 2021.

[Signature]

Notary Public in and for said county and state

My commission expires: July 1, 2022

(Notary Stamp)



*Owner refers to the following: (Please mark appropriate box.)

- Owner
- Corporate Officer/Partner (Provide copy of record document indicating authority to sign.)
- Power of Attorney (Provide copy of Power of Attorney.)
- Owner Agent (Provide notarized letter from property owner giving legal authority to agent.)
- Property Agent (Provide copy of record document indicating authority to sign.)
- Letter from Government Agency with Stewardship

Tentative Subdivision Map Application Supplemental Information

(All required information may be separately attached)

1. What is the location (address or distance and direction from nearest intersection)?

2. What is the subdivision name (proposed name must not duplicate the name of any existing subdivision)?

3. Density and lot design:

a. Acreage of project site	
b. Total number of lots	
c. Dwelling units per acre	
d. Minimum and maximum area of proposed lots	
e. Minimum width of proposed lots	
f. Average lot size	

4. What utility company or organization will provide services to the development:

a. Sewer Service	
b. Electrical Service	
c. Telephone Service	
d. LPG or Natural Gas Service	
e. Solid Waste Disposal Service	
f. Cable Television Service	
g. Water Service	

5. For common open space subdivisions (Article 408), please answer the following:

- a. Acreage of common open space:

- b. What development constraints are within the development and how many acres are designated slope, wetlands, faults, springs, and/or ridgelines:

- c. Range of lot sizes (include minimum and maximum lot size):

d. Proposed yard setbacks if different from standard:

e. Justification for setback reduction or increase, if requested:

f. Identify all proposed non-residential uses:

g. Improvements proposed for the common open space:

h. Describe or show on the tentative map any public or private trail systems within common open space of the development:

i. Describe the connectivity of the proposed trail system with existing trails or open space adjacent to or near the property:

j. If there are ridgelines on the property, how are they protected from development?

k. Will fencing be allowed on lot lines or restricted? If so, how?

l. Identify the party responsible for maintenance of the common open space:

6. Is the project adjacent to public lands or impacted by "Presumed Public Roads" as shown on the adopted April 27, 1999 Presumed Public Roads (see Washoe County Engineering website at <http://www.washoecounty.us/pubworks/engineering.htm>). If so, how is access to those features provided?

7. Is the parcel within the Truckee Meadows Service Area?

<input type="checkbox"/> Yes	<input type="checkbox"/> No
------------------------------	-----------------------------

8. Is the parcel within the Cooperative Planning Area as defined by the Regional Plan?

<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, within what city?
------------------------------	-----------------------------	---------------------------

9. Has an archeological survey been reviewed and approved by SHPO on the property? If yes, what were the findings?

--

10. Indicate the type and quantity of water rights the application has or proposes to have available:

a. Permit #		acre-feet per year	
b. Certificate #		acre-feet per year	
c. Surface Claim #		acre-feet per year	
d. Other #		acre-feet per year	

a. Title of those rights (as filed with the State Engineer in the Division of Water Resources of the Department of Conservation and Natural Resources):

--

11. Describe the aspects of the tentative subdivision that contribute to energy conservation:

--

12. Is the subject property in an area identified by Planning and Building as potentially containing rare or endangered plants and/or animals, critical breeding habitat, migration routes or winter range? If so, please list the species and describe what mitigation measures will be taken to prevent adverse impacts to the species:

--

13. If private roads are proposed, will the community be gated? If so, is a public trail system easement provided through the subdivision?

--

14. Are there any applicable policies of the adopted area plan in which the project is located that require compliance? If so, which policies and how does the project comply?

--

15. Are there any applicable area plan modifiers in the Development Code in which the project is located that require compliance? If so, which modifiers and how does the project comply?

--

16. Will the project be completed in one phase or is phasing planned? If so, please provide that phasing plan:

--

17. Is the project subject to Article 424, Hillside Development? If yes, please address all requirements of the Hillside Ordinance in a separate set of attachments and maps.

<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, include a separate set of attachments and maps.
------------------------------	-----------------------------	---

18. Is the project subject to Article 418, Significant Hydrologic Resources? If yes, please address Special Review Considerations within Section 110.418.30 in a separate attachment.

<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, include separate attachments.
------------------------------	-----------------------------	---------------------------------------

Grading

Please complete the following additional questions if the project anticipates grading that involves: (1) Disturbed area exceeding twenty-five thousand (25,000) square feet not covered by streets, buildings and landscaping; (2) More than one thousand (1,000) cubic yards of earth to be imported and placed as fill in a special flood hazard area; (3) More than five thousand (5,000) cubic yards of earth to be imported and placed as fill; (4) More than one thousand (1,000) cubic yards to be excavated, whether or not the earth will be exported from the property; or (5) If a permanent earthen structure will be established over four and one-half (4.5) feet high:

19. How many cubic yards of material are you proposing to excavate on site?

20. How many cubic yards of material are you exporting or importing? If exporting of material is anticipated, where will the material be sent? If the disposal site is within unincorporated Washoe County, what measures will be taken for erosion control and revegetation at the site? If none, how are you balancing the work on-site?

21. Can the disturbed area be seen from off-site? If yes, from which directions, and which properties or roadways? What measures will be taken to mitigate their impacts?

22. What is the slope (Horizontal/Vertical) of the cut and fill areas proposed to be? What methods will be used to prevent erosion until the revegetation is established?

23. Are you planning any berms and, if so, how tall is the berm at its highest? How will it be stabilized and/or revegetated?

24. Are retaining walls going to be required? If so, how high will the walls be, will there be multiple walls with intervening terracing, and what is the wall construction (i.e. rockery, concrete, timber, manufactured block)? How will the visual impacts be mitigated?

25. Will the grading proposed require removal of any trees? If so, what species, how many, and of what size?

26. What type of revegetation seed mix are you planning to use and how many pounds per acre do you intend to broadcast? Will you use mulch and, if so, what type?

27. How are you providing temporary irrigation to the disturbed area?

28. Have you reviewed the revegetation plan with the Washoe Storey Conservation District? If yes, have you incorporated their suggestions?

Tahoe Basin

Please complete the following questions if the project is within the Tahoe Basin:

29. Who is the Tahoe Regional Planning Agency (TRPA) project planner and what is his/her TRPA extension?

--

30. Is the project within a Community Plan (CP) area?

<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, which CP?
------------------------------	-----------------------------	-------------------

31. State how you are addressing the goals and policies of the Community Plan for each of the following sections:

- a. Land Use:

--

- b. Transportation:

--

- c. Conservation:

--

- d. Recreation:

--

- e. Public Services:

--

32. Identify where the development rights for the proposed project will come from:

--

33. Will this project remove or replace existing housing?

<input type="checkbox"/> Yes	<input type="checkbox"/> No	If yes, how many units?
------------------------------	-----------------------------	-------------------------

34. How many residential allocations will the developer request from Washoe County?

--

35. Describe how the landscape plans conform to the Incline Village General Improvement District landscaping requirements:

--



Street Reservation Status - Pearl Drive Subdivision

1 message

Orvald, Julie M <JOrvald@washoecounty.us>
To: "rebecca@robisoneng.com" <rebecca@robisoneng.com>
Cc: "Rudebusch, Dixie" <DRudebusch@washoecounty.us>

Wed, Jan 6, 2021 at 1:01 PM

Reserved Street Name Recipients,

These street name(s) have been accepted and reserved into the Washoe County Master Street Directory Reservation table:

ACCEPTED/RESERVED		
Expiration Date	Street Name	Project
2/5/2022	CALEB	Pearl Drive Subdivision (Robison Engineering- Rebecca Bernier)

These street name(s) have been rejected:

REJECTED	
Name	Reason

****Note:** Washoe County GIS reserves the right to rescind any reserved street name before recordation, in accordance with public safety concerns.

****Note:** A street name reservation is valid for one year after it is ACCEPTED. If the name does not appear on a recorded document within one year of acceptance, then there is no obligation to honor the reservation. Forward this email or send a request to StreetNames@washoecounty.us for renewal, once reservation expires.

All future street name requests:

1. Fill out online form: <https://gis.washoecounty.us/regionalservicesdashboard/streetsaddress/public/streetreservationform>
2. Do **NOT** include USPS suffix types (e.g. AVE, ST, RD, CT, DR, LN, WAY, CIR, PL, TRL, etc.); that comes later.
3. No more than 14 letters, 15 if there is an "i" in the name (spaces count as a character).
4. Special characters are **NOT** allowed ('; ', ~, /, \, -, *, #, &, @, %, +).
5. Abbreviations for MOUNT (MT) and SAINT (ST) are **NOT** allowed.

For the purposes of Emergency Management, street names will reject if the street name already exists or sounds similar, phonetically, to an existing street name. For street names that already exist or reserved in the Washoe County Master Street Directory click:

1. Existing streets: Click <https://gis.washoecounty.us/regionalservicesdashboard/streetsaddress/public/stretdirectory>
2. Reserved streets: Click <https://gis.washoecounty.us/regionalservicesdashboard/streetsaddress/public/streetreservations>

Regional Street Naming & Mapping:

https://www.washoecounty.us/csd/engineering_capitalprojects/Regional%20Street%20Directory%20and%20Street%20Naming%20Forms/index.php



Julie Orvald, MS

Technology Systems Developer/Street Naming Coordinator

Technology Services | Regional Services / GIS

jorvald@washoecounty.us | Office: 775.328.2344

1001 E Ninth St, Reno, NV 89512

Account Detail

[Back to Account Detail](#)

[Change of Address](#)

[Print this Page](#)

CollectionCart

Collection Cart	Items	Total	Checkout	View
	0	\$0.00		

Pay Online

No payment due for this account.

Washoe County Parcel Information

Parcel ID	Status	Last Update
08546102	Active	1/19/2021 1:40:39 AM

Current Owner:

CALEB ASSOCIATES LLC

8745 TECHNOLOGY WAY STE F
RENO, NV 89521

SITUS:

5845 PEARL DR
WCTY NV

Taxing District

4020

Geo CD:

Tax Bill (Click on desired tax year for due dates and further details)

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
2020	\$458.86	\$458.86	\$0.00	\$0.00	\$0.00
2019	\$437.00	\$443.37	\$0.00	\$0.00	\$0.00
2018	\$417.00	\$417.00	\$0.00	\$0.00	\$0.00
2017	\$400.20	\$400.20	\$0.00	\$0.00	\$0.00
2016	\$390.47	\$390.47	\$0.00	\$0.00	\$0.00
Total					\$0.00

Disclaimer

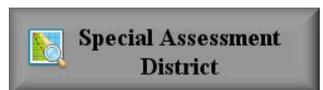
- ALERTS:** If your real property taxes are delinquent, the search results displayed may not reflect the correct amount owing. Please contact our office for the current amount due.
- For your convenience, online payment is available on this site. E-check payments are accepted without a fee. However, a service fee does apply for online credit card payments. See [Payment Information](#) for details.

Pay By Check

Please make checks payable to:
WASHOE COUNTY TREASURER

Mailing Address:
P.O. Box 30039
Reno, NV 89520-3039

Overnight Address:
1001 E. Ninth St., Ste D140
Reno, NV 89512-2845



Account Detail

[Back to Account Detail](#)

[Change of Address](#)

[Print this Page](#)

CollectionCart

Collection Cart	Items	Total	Checkout	View
	0	\$0.00		

Pay Online

No payment due for this account.

Washoe County Parcel Information

Parcel ID	Status	Last Update
08546103	Active	1/19/2021 1:40:39 AM

Current Owner:
CALEB ASSOCIATES LLC

8745 TECHNOLOGY WAY STE F
RENO, NV 89521

SITUS:
5840 LUPIN DR
WCTY NV

Taxing District
4020

Geo CD:

Tax Bill (Click on desired tax year for due dates and further details)

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
2020	\$399.06	\$399.06	\$0.00	\$0.00	\$0.00
2019	\$380.04	\$385.84	\$0.00	\$0.00	\$0.00
2018	\$362.64	\$362.64	\$0.00	\$0.00	\$0.00
2017	\$348.03	\$348.03	\$0.00	\$0.00	\$0.00
2016	\$339.62	\$339.62	\$0.00	\$0.00	\$0.00
Total					\$0.00

Disclaimer

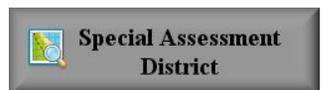
- ALERTS:** If your real property taxes are delinquent, the search results displayed may not reflect the correct amount owing. Please contact our office for the current amount due.
- For your convenience, online payment is available on this site. E-check payments are accepted without a fee. However, a service fee does apply for online credit card payments. See [Payment Information](#) for details.

Pay By Check

Please make checks payable to:
WASHOE COUNTY TREASURER

Mailing Address:
P.O. Box 30039
Reno, NV 89520-3039

Overnight Address:
1001 E. Ninth St., Ste D140
Reno, NV 89512-2845



Account Detail

[Back to Account Detail](#)

[Change of Address](#)

[Print this Page](#)

CollectionCart

Collection Cart	Items	Total	Checkout	View
	0	\$0.00		

Pay Online

No payment due for this account.

Washoe County Parcel Information

Parcel ID	Status	Last Update
08546104	Active	1/19/2021 1:40:39 AM

Current Owner:
CALEB ASSOCIATES LLC

8745 TECHNOLOGY WAY STE F
RENO, NV 89521

SITUS:
5855 PEARL DR
WCTY NV

Taxing District
4020

Geo CD:

Tax Bill (Click on desired tax year for due dates and further details)

Tax Year	Net Tax	Total Paid	Penalty/Fees	Interest	Balance Due
2020	\$399.06	\$399.06	\$0.00	\$0.00	\$0.00
2019	\$380.04	\$385.84	\$0.00	\$0.00	\$0.00
2018	\$362.64	\$362.64	\$0.00	\$0.00	\$0.00
2017	\$348.03	\$348.03	\$0.00	\$0.00	\$0.00
2016	\$339.62	\$339.62	\$0.00	\$0.00	\$0.00
Total					\$0.00

Disclaimer

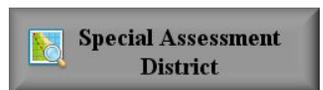
- ALERTS:** If your real property taxes are delinquent, the search results displayed may not reflect the correct amount owing. Please contact our office for the current amount due.
- For your convenience, online payment is available on this site. E-check payments are accepted without a fee. However, a service fee does apply for online credit card payments. See [Payment Information](#) for details.

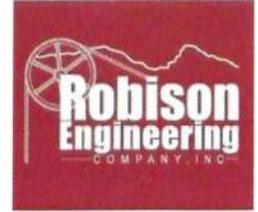
Pay By Check

Please make checks payable to:
WASHOE COUNTY TREASURER

Mailing Address:
P.O. Box 30039
Reno, NV 89520-3039

Overnight Address:
1001 E. Ninth St., Ste D140
Reno, NV 89512-2845



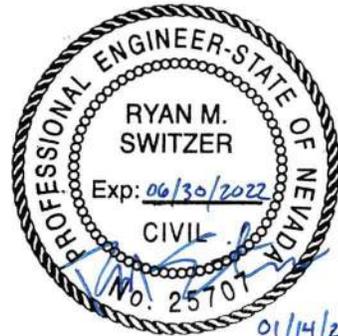


DRAINAGE REPORT

For

PEARL TENTATIVE SUBDIVISION MAP

APNs 085-461-02, -03 and -04



Prepared for:

STAR WEST HOMES

8745 Technology Way, Ste 5

Reno, NV 89521

Prepared by:

ROBISON ENGINEERING COMPANY

846 Victorian Avenue, Suite 20

Sparks, Nevada 89431

January 2021



INTRODUCTION

This report addresses the existing and anticipated drainage conditions for a proposed 11-lot subdivision development located west of Pearl Drive and east of Lupin Drive in Sun Valley, Nevada. The site is located in the south 1/2 of the northwest 1/4 of section 17, township 20 north, range 20 east, Mount Diablo Meridian, Washoe County, Nevada (APNs 085-461-02 and -04). Refer to attached vicinity map for detailed location of site (see Appendix A - Figure 1).

The site is accessed from Pearl Drive abutting the eastern property line, Lupin Drive abutting the west property line, and surrounded by existing residential property to the north and south boundaries. The undeveloped properties encompass 3.8 acres zoned for medium density suburban uses; the entirety of the three lots are subject to this drainage study. Currently the site consists of undeveloped range land with primarily sagebrush cover, and two dirt roads in west-east orientation.

The existing soils consist primarily of Greenbrae fine sandy loam at 0 to 2 percent slopes, and Greenbrae sandy loam at 2 to 4 percent slopes (Reference 1). The site has a consistent slope from northwest to southeast.

The proposed development consists of the subdivision of the three existing lots into 11 residential lots for manufactured homes. The purpose of this report is to analyze the existing and post developed stormwater runoff conditions for the site.

HISTORIC DRAINAGE SYSTEM

The site is located in the Western Mountains and High Plains region where rainfall averages less than 15 inches per year. The rainfall depth is determined by National Oceanic and Atmospheric Administration (NOAA) (Reference 2).

Onsite drainage consists of overland sheet flow from northwest to southeast. No stormdrain infrastructure exists onsite; however, a stormdrain manhole exists offsite within Pearl Drive at the southeast corner of the site (see Appendix A – Figure 2). For purposes of this conceptual report it is presumed that most flow infiltrates onsite, but larger storms may generate runoff that discharges at the southeast corner of the project area, the ultimate discharge point of the site.

The existing site was analyzed for minor (5-year frequency) and major (100-year frequency) storm events in accordance with the Truckee Meadows Regional Drainage Manual (TMRDM). The pre-developed site consists of two basins, referred to as Sub-Basins 1 and 2 herein. Refer to Table 1 in Appendix B for the calculated site specific pre-developed flows.



PROPOSED DRAINAGE SYSTEM

The proposed development will contribute impermeable land cover via building roofs and semi-permeable surfaces such as driveways and a primary cul-de-sac roadway (both unpaved) to be mitigated through stormwater management features described herein. The proposed site consists of two Sub-Basins, A and B. Sub-basin A consists of eight approximately quarter-acre residential lots and Sub-basin B consists of three approximately third-acre lots (modeled as quarter-acre lots). Sub-basin A will drain via sheet flow to local swales around building pads, from each lot to roadside swales along the cul-de-sac roadway, and then southeast to the existing stormdrain manhole within Pearl Drive. Sub-basin B will similarly drain via sheet flow to local swales around building pads but will drain from the lots via sheetflow to a retention ditch at the southeast corner of the basin (see Appendix A – Figure 2).

The 5-year frequency storm event was used to design and manage overall drainage areas within the project (i.e. swales). Pending infiltration test results, it is assumed that the majority of storm flows will infiltrate into the highly sandy site soils and runoff will be minimal. The 100-year frequency event, without accounting for infiltration, resulted in a near negligible detention volumes and thus detention has not been proposed as part of the project. To alleviate continued run-off from Sub-basin B to the neighboring properties to the south, namely APN 085-461-70, a retention ditch is proposed.

The Rational Method was used to determine the detention/retention requirements and Manning's Equation was used in the hydraulic analysis of the site (see Appendix B).

FLOOD HAZARD ZONE

Per FEMA Flood Hazard Map panel 32031C3032G (Reference 3) the site is located in unshaded Zone X. Unshaded zone X is defined by the FEMA flood map as "areas determined to be outside the 0.2% annual chance floodplain." Based on this information, FEMA anticipates that there is minimal risk of the property flooding.

CONCLUSION

The development of the proposed site will not result in negative impacts to the surrounding areas or existing drainage facilities. The TMRDM was utilized for the conceptual stormwater analysis of the site, with a detention basin being omitted due to near negligible runoff volume differences between the pre- and post-development conditions. A retention ditch is proposed to alleviate pre-development issues. The development conforms to standards of engineering practice to protect the proposed development and provide for improvement to runoff water quality by sediment capture and by landscape stabilization of native soils.



APPENDIX A – FIGURES

FIGURE 1 – Vicinity Map
FIGURE 2 – Drainage Plan

APPENDIX B – CALCULATIONS

REFERENCES

Reference 1 - NRCS Web Soil Survey
Reference 2 - NOAA Precipitation Data
Reference 3 - FEMA FIRMette

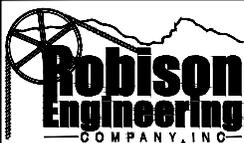
Robison Engineering Company, Inc
846 Victorian Avenue, Suite 20
Sparks, NV US
www.robisoneng.com
RENG Proj. Number: 1-1137-06.002



APPENDIX A

FIGURES

P:\StarWestHomes_1137\06.001_Lupin-Pearl_Lots\8_DWG\Civil\Pearl_Report\Exhibits.dwg, 1/14/2021 2:06:14 PM, RSWITZER



846 VICTORIAN AVENUE
SPARKS, NV 89431
www.robisoneng.com

DRAWN:RMS
DATE:01/14/2021

PREPARED FOR:
**STAR WEST
HOMES**

8745 TECHNOLOGY WAY
SUITE F
RENO, NV 89521
775-232-5879



NOT TO SCALE

PEARL SUBDIVISION DRAINAGE REPORT

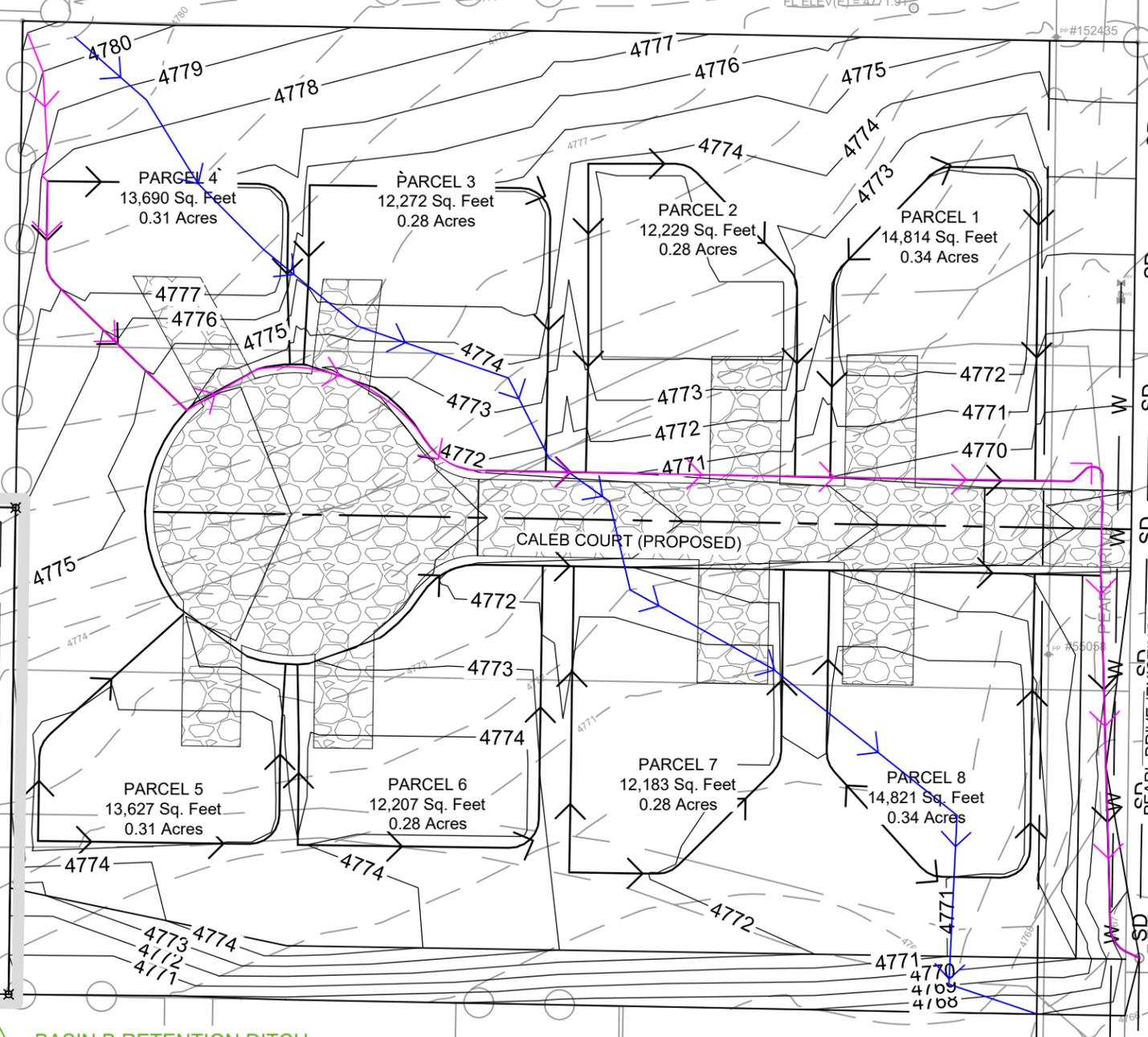
F1
VICINITY MAP

WASHOE COUNTY
PROJECT NO:1-1137-06.002

NEVADA

PRE-DEVELOPMENT BASIN 1	
C ₅	= 0.20
C ₁₀₀	= 0.50
i ₅	= 1.45 IN/HR
i ₁₀₀	= 3.65 IN/HR
A	= 2.88 AC
Q ₅	= 0.84 CFS
Q ₁₀₀	= 5.26 CFS

POST-DEVELOPMENT BASIN A	
C ₅	= 0.50
C ₁₀₀	= 0.65
i ₅	= 1.20 IN/HR
i ₁₀₀	= 3.02 IN/HR
A	= 2.88 AC
Q ₅	= 1.73 CFS
Q ₁₀₀	= 5.65 CFS



PRE-DEVELOPMENT BASIN 2	
C ₅	= 0.20
C ₁₀₀	= 0.50
i ₅	= 1.45 IN/HR
i ₁₀₀	= 3.65 IN/HR
A	= 0.95 AC
Q ₅	= 0.28 CFS
Q ₁₀₀	= 1.73 CFS

POST-DEVELOPMENT BASIN B	
C ₅	= 0.50
C ₁₀₀	= 0.65
i ₅	= 1.45 IN/HR
i ₁₀₀	= 3.65 IN/HR
A	= 0.95 AC
Q ₅	= 0.69 CFS
Q ₁₀₀	= 2.25 CFS

BASIN B RETENTION DITCH

<p>PRELIMINARY NOT FOR CONSTRUCTION</p>	<p>846 VICTORIAN AVENUE SPARKS, NV 89431 www.robisoneng.com</p>	<p>PREPARED FOR: STAR WEST HOMES</p>	<p>0 25' 50' INCH@FULL SCALE</p>	<p>PEARL SUBDIVISION DRAINAGE REPORT</p> <p>F2 DRAINAGE PLAN</p>
		<p>8745 TECHNOLOGY WAY SUITE F RENO, NV 89521 775-232-5879</p>		
<p>DATE: 01/14/2021</p>		<p>DRAWN: RMS</p>		

P:\StarWestHomes_113706.001_Lupin-Pearl.dwg\Civil\Pearl_Report\Exhibits.dwg, 1/14/2021 2:28:11 PM, RSWITZER

Robison Engineering Company, Inc
846 Victorian Avenue, Suite 20
Sparks, NV US
www.robisoneng.com
RENG Proj. Number: 1-1137-06.002



APPENDIX B CALCULATIONS

**STAR WEST - PEARL SUBDIVISION
HYDROLOGIC CALCULATIONS**

TABLE 1 - HYDROLOGIC DETENTION CALCULATIONS								
ON-SITE PRE-DEVELOPED BASIN CHARACTERISTICS								
SUB-BASIN	LAND USE	C ₅ (UNITLESS)	C ₁₀₀ (UNITLESS)	i ₅ (IN/HR)	i ₁₀₀ (IN/HR)	A (AC)	Q ₅ (CFS)	Q ₁₀₀ (CFS)
1	Undeveloped Area	0.20	0.50	1.450	3.650	2.88	0.84	5.26
2	Undeveloped Area	0.20	0.50	1.450	3.650	0.95	0.28	1.73
TOTAL						3.83	1.11	6.99
ON-SITE POST-DEVELOPED BASIN CHARACTERISTICS								
SUB-BASIN	LAND USE	C ₅ (UNITLESS)	C ₁₀₀ (UNITLESS)	i ₅ (IN/HR)	i ₁₀₀ (IN/HR)	A (AC)	Q ₅ (CFS)	Q ₁₀₀ (CFS)
A	1/4-acre Residential	0.50	0.65	1.200	3.020	2.88	1.73	5.65
B	1/4-acre Residential	0.50	0.65	1.450	3.650	0.95	0.69	2.25
TOTAL						3.83	2.42	7.91
	5-YR FLOW DIFFERENTIAL	100-YR FLOW DIFFERENTIAL						
	ΔQ₅ (CFS)	ΔQ₁₀₀ (CFS)						
ΔA-1	0.89	0.40						
ΔB-2	0.41	0.52						
ΔTOTAL	1.31	0.92						
	5-YR DETENTION REQUIREMENTS	100-YR DETENTION REQUIREMENTS						
	ΔV₅ (CF)	ΔV₁₀₀ (CF)						
ΔA-1	536	238						
ΔB-2	248	312						
ΔTOTAL	784	551						

METHOD OF CALCULATION: RATIONAL METHOD (Q=CiA)

Q: PEAK DISCHARGE FROM DRAINAGE BASIN RUNOFF, MEASURED IN CUBIC FEET PER SECOND (CFS)

C: RUNOFF COEFFICIENT - THIS IS A FUNCTION OF THE SOIL AND LAND USE TYPE AND CAN BE FOUND IN TABLE 701 OF THE TRUCKEE MEADOWS REGIONAL DRAINAGE MANUAL

I: RAINFALL INTENSITY (INCH/HOUR) DETERMINED BY NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION (NOAA) WITH T_c EQUAL TO 10 MINUTES FOR PRE-DEVELOPMENT CONDITIONS AND 10 OR 15 MINUTES FOR POST-DEVELOPMENT CONDITIONS

A: DRAINAGE AREA MEASURED IN ACRES (AC)

V: REQUIRED DETENTION VOLUME FOR THE SPECIFIED STORM EVENT

TABLE 2 - TIME OF CONCENTRATION				
SCS Method using Carlson Hydrology Module				
	PRE-DEVELOPMENT 1	PRE-DEVELOPMENT 2	POST-DEVELOPMENT A	POST-DEVELOPMENT B
L (ft)	505	290	650	345
CN	81.0	81.0	83.0	83.0
Slope (%)	2.8	3.1	2.2	2.6
T_c (minutes)	10.6	10.0	13.8	10.0

(10 minutes minimum)



STAR WEST - PEARL SUBDIVISION
HYDROLOGIC CALCULATIONS

TABLE 1 - SWALE CAPACITY ANALYSIS		
MANNING'S EQUATION: $Q=(1.49/n)R^{2/3}AS^{1/2}$		
3'W AT 2:1 SIDE SLOPE / 1.5% AVG LONGITUDINAL SLOPE		
B	0	ft
SS	3	H:V
H	0.67	ft
n	0.035	(natural cobble)
S	0.0150	ft/ft
R	0.3178	ft
A	1.3467	ft ²
Pw	4.24	0
Q_{VG}	3.27	cfs
V_{VG}	2.43	ft/s



Robison Engineering Company, Inc
846 Victorian Avenue, Suite 20
Sparks, NV US
www.robisoneng.com
RENG Proj. Number: 1-1137-06.002



REFERENCES



United States
Department of
Agriculture

NRCS

Natural
Resources
Conservation
Service

A product of the National
Cooperative Soil Survey,
a joint effort of the United
States Department of
Agriculture and other
Federal agencies, State
agencies including the
Agricultural Experiment
Stations, and local
participants

Custom Soil Resource Report for Washoe County, Nevada, South Part



January 14, 2021

Preface

Soil surveys contain information that affects land use planning in survey areas. They highlight soil limitations that affect various land uses and provide information about the properties of the soils in the survey areas. Soil surveys are designed for many different users, including farmers, ranchers, foresters, agronomists, urban planners, community officials, engineers, developers, builders, and home buyers. Also, conservationists, teachers, students, and specialists in recreation, waste disposal, and pollution control can use the surveys to help them understand, protect, or enhance the environment.

Various land use regulations of Federal, State, and local governments may impose special restrictions on land use or land treatment. Soil surveys identify soil properties that are used in making various land use or land treatment decisions. The information is intended to help the land users identify and reduce the effects of soil limitations on various land uses. The landowner or user is responsible for identifying and complying with existing laws and regulations.

Although soil survey information can be used for general farm, local, and wider area planning, onsite investigation is needed to supplement this information in some cases. Examples include soil quality assessments (<http://www.nrcs.usda.gov/wps/portal/nrcs/main/soils/health/>) and certain conservation and engineering applications. For more detailed information, contact your local USDA Service Center (<https://offices.sc.egov.usda.gov/locator/app?agency=nrcs>) or your NRCS State Soil Scientist (http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/contactus/?cid=nrcs142p2_053951).

Great differences in soil properties can occur within short distances. Some soils are seasonally wet or subject to flooding. Some are too unstable to be used as a foundation for buildings or roads. Clayey or wet soils are poorly suited to use as septic tank absorption fields. A high water table makes a soil poorly suited to basements or underground installations.

The National Cooperative Soil Survey is a joint effort of the United States Department of Agriculture and other Federal agencies, State agencies including the Agricultural Experiment Stations, and local agencies. The Natural Resources Conservation Service (NRCS) has leadership for the Federal part of the National Cooperative Soil Survey.

Information about soils is updated periodically. Updated information is available through the NRCS Web Soil Survey, the site for official soil survey information.

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, age, disability, and where applicable, sex, marital status, familial status, parental status, religion, sexual orientation, genetic information, political beliefs, reprisal, or because all or a part of an individual's income is derived from any public assistance program. (Not all prohibited bases apply to all programs.) Persons with disabilities who require

alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at (202) 720-2600 (voice and TDD). To file a complaint of discrimination, write to USDA, Director, Office of Civil Rights, 1400 Independence Avenue, S.W., Washington, D.C. 20250-9410 or call (800) 795-3272 (voice) or (202) 720-6382 (TDD). USDA is an equal opportunity provider and employer.

Contents

Preface	2
How Soil Surveys Are Made	5
Soil Map	8
Soil Map.....	9
Legend.....	10
Map Unit Legend.....	11
Map Unit Descriptions.....	11
Washoe County, Nevada, South Part.....	13
131—Greenbrae fine sandy loam, 0 to 2 percent slopes.....	13
132—Greenbrae sandy loam, 2 to 4 percent slopes.....	15
171—Indian Creek gravelly sandy loam, 0 to 4 percent slopes.....	16
Soil Information for All Uses	19
Soil Properties and Qualities.....	19
Soil Physical Properties.....	19
Saturated Hydraulic Conductivity (Ksat).....	19
Soil Reports.....	23
Soil Physical Properties.....	23
Engineering Properties.....	23
References	28

How Soil Surveys Are Made

Soil surveys are made to provide information about the soils and miscellaneous areas in a specific area. They include a description of the soils and miscellaneous areas and their location on the landscape and tables that show soil properties and limitations affecting various uses. Soil scientists observed the steepness, length, and shape of the slopes; the general pattern of drainage; the kinds of crops and native plants; and the kinds of bedrock. They observed and described many soil profiles. A soil profile is the sequence of natural layers, or horizons, in a soil. The profile extends from the surface down into the unconsolidated material in which the soil formed or from the surface down to bedrock. The unconsolidated material is devoid of roots and other living organisms and has not been changed by other biological activity.

Currently, soils are mapped according to the boundaries of major land resource areas (MLRAs). MLRAs are geographically associated land resource units that share common characteristics related to physiography, geology, climate, water resources, soils, biological resources, and land uses (USDA, 2006). Soil survey areas typically consist of parts of one or more MLRA.

The soils and miscellaneous areas in a survey area occur in an orderly pattern that is related to the geology, landforms, relief, climate, and natural vegetation of the area. Each kind of soil and miscellaneous area is associated with a particular kind of landform or with a segment of the landform. By observing the soils and miscellaneous areas in the survey area and relating their position to specific segments of the landform, a soil scientist develops a concept, or model, of how they were formed. Thus, during mapping, this model enables the soil scientist to predict with a considerable degree of accuracy the kind of soil or miscellaneous area at a specific location on the landscape.

Commonly, individual soils on the landscape merge into one another as their characteristics gradually change. To construct an accurate soil map, however, soil scientists must determine the boundaries between the soils. They can observe only a limited number of soil profiles. Nevertheless, these observations, supplemented by an understanding of the soil-vegetation-landscape relationship, are sufficient to verify predictions of the kinds of soil in an area and to determine the boundaries.

Soil scientists recorded the characteristics of the soil profiles that they studied. They noted soil color, texture, size and shape of soil aggregates, kind and amount of rock fragments, distribution of plant roots, reaction, and other features that enable them to identify soils. After describing the soils in the survey area and determining their properties, the soil scientists assigned the soils to taxonomic classes (units). Taxonomic classes are concepts. Each taxonomic class has a set of soil characteristics with precisely defined limits. The classes are used as a basis for comparison to classify soils systematically. Soil taxonomy, the system of taxonomic classification used in the United States, is based mainly on the kind and character of soil properties and the arrangement of horizons within the profile. After the soil

Custom Soil Resource Report

scientists classified and named the soils in the survey area, they compared the individual soils with similar soils in the same taxonomic class in other areas so that they could confirm data and assemble additional data based on experience and research.

The objective of soil mapping is not to delineate pure map unit components; the objective is to separate the landscape into landforms or landform segments that have similar use and management requirements. Each map unit is defined by a unique combination of soil components and/or miscellaneous areas in predictable proportions. Some components may be highly contrasting to the other components of the map unit. The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The delineation of such landforms and landform segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, onsite investigation is needed to define and locate the soils and miscellaneous areas.

Soil scientists make many field observations in the process of producing a soil map. The frequency of observation is dependent upon several factors, including scale of mapping, intensity of mapping, design of map units, complexity of the landscape, and experience of the soil scientist. Observations are made to test and refine the soil-landscape model and predictions and to verify the classification of the soils at specific locations. Once the soil-landscape model is refined, a significantly smaller number of measurements of individual soil properties are made and recorded. These measurements may include field measurements, such as those for color, depth to bedrock, and texture, and laboratory measurements, such as those for content of sand, silt, clay, salt, and other components. Properties of each soil typically vary from one point to another across the landscape.

Observations for map unit components are aggregated to develop ranges of characteristics for the components. The aggregated values are presented. Direct measurements do not exist for every property presented for every map unit component. Values for some properties are estimated from combinations of other properties.

While a soil survey is in progress, samples of some of the soils in the area generally are collected for laboratory analyses and for engineering tests. Soil scientists interpret the data from these analyses and tests as well as the field-observed characteristics and the soil properties to determine the expected behavior of the soils under different uses. Interpretations for all of the soils are field tested through observation of the soils in different uses and under different levels of management. Some interpretations are modified to fit local conditions, and some new interpretations are developed to meet local needs. Data are assembled from other sources, such as research information, production records, and field experience of specialists. For example, data on crop yields under defined levels of management are assembled from farm records and from field or plot experiments on the same kinds of soil.

Predictions about soil behavior are based not only on soil properties but also on such variables as climate and biological activity. Soil conditions are predictable over long periods of time, but they are not predictable from year to year. For example, soil scientists can predict with a fairly high degree of accuracy that a given soil will have a high water table within certain depths in most years, but they cannot predict that a high water table will always be at a specific level in the soil on a specific date.

After soil scientists located and identified the significant natural bodies of soil in the survey area, they drew the boundaries of these bodies on aerial photographs and

Custom Soil Resource Report

identified each as a specific map unit. Aerial photographs show trees, buildings, fields, roads, and rivers, all of which help in locating boundaries accurately.

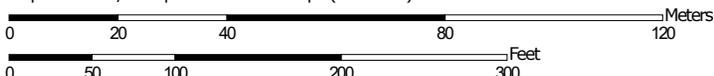
Soil Map

The soil map section includes the soil map for the defined area of interest, a list of soil map units on the map and extent of each map unit, and cartographic symbols displayed on the map. Also presented are various metadata about data used to produce the map, and a description of each soil map unit.

Custom Soil Resource Report Soil Map



Map Scale: 1:1,380 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

Area of Interest (AOI)			Spoil Area
	Area of Interest (AOI)		Stony Spot
Soils			Very Stony Spot
	Soil Map Unit Polygons		Wet Spot
	Soil Map Unit Lines		Other
	Soil Map Unit Points		Special Line Features
Special Point Features		Water Features	
	Blowout		Streams and Canals
	Borrow Pit	Transportation	
	Clay Spot		Rails
	Closed Depression		Interstate Highways
	Gravel Pit		US Routes
	Gravelly Spot		Major Roads
	Landfill		Local Roads
	Lava Flow	Background	
	Marsh or swamp		Aerial Photography
	Mine or Quarry		
	Miscellaneous Water		
	Perennial Water		
	Rock Outcrop		
	Saline Spot		
	Sandy Spot		
	Severely Eroded Spot		
	Sinkhole		
	Slide or Slip		
	Sodic Spot		

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Washoe County, Nevada, South Part
 Survey Area Data: Version 17, Aug 26, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 1, 2018—Oct 1, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Map Unit Legend

Map Unit Symbol	Map Unit Name	Acres in AOI	Percent of AOI
131	Greenbrae fine sandy loam, 0 to 2 percent slopes	5.1	55.0%
132	Greenbrae sandy loam, 2 to 4 percent slopes	3.9	42.8%
171	Indian Creek gravelly sandy loam, 0 to 4 percent slopes	0.2	2.3%
Totals for Area of Interest		9.2	100.0%

Map Unit Descriptions

The map units delineated on the detailed soil maps in a soil survey represent the soils or miscellaneous areas in the survey area. The map unit descriptions, along with the maps, can be used to determine the composition and properties of a unit.

A map unit delineation on a soil map represents an area dominated by one or more major kinds of soil or miscellaneous areas. A map unit is identified and named according to the taxonomic classification of the dominant soils. Within a taxonomic class there are precisely defined limits for the properties of the soils. On the landscape, however, the soils are natural phenomena, and they have the characteristic variability of all natural phenomena. Thus, the range of some observed properties may extend beyond the limits defined for a taxonomic class. Areas of soils of a single taxonomic class rarely, if ever, can be mapped without including areas of other taxonomic classes. Consequently, every map unit is made up of the soils or miscellaneous areas for which it is named and some minor components that belong to taxonomic classes other than those of the major soils.

Most minor soils have properties similar to those of the dominant soil or soils in the map unit, and thus they do not affect use and management. These are called noncontrasting, or similar, components. They may or may not be mentioned in a particular map unit description. Other minor components, however, have properties and behavioral characteristics divergent enough to affect use or to require different management. These are called contrasting, or dissimilar, components. They generally are in small areas and could not be mapped separately because of the scale used. Some small areas of strongly contrasting soils or miscellaneous areas are identified by a special symbol on the maps. If included in the database for a given area, the contrasting minor components are identified in the map unit descriptions along with some characteristics of each. A few areas of minor components may not have been observed, and consequently they are not mentioned in the descriptions, especially where the pattern was so complex that it was impractical to make enough observations to identify all the soils and miscellaneous areas on the landscape.

The presence of minor components in a map unit in no way diminishes the usefulness or accuracy of the data. The objective of mapping is not to delineate pure taxonomic classes but rather to separate the landscape into landforms or

Custom Soil Resource Report

landform segments that have similar use and management requirements. The delineation of such segments on the map provides sufficient information for the development of resource plans. If intensive use of small areas is planned, however, onsite investigation is needed to define and locate the soils and miscellaneous areas.

An identifying symbol precedes the map unit name in the map unit descriptions. Each description includes general facts about the unit and gives important soil properties and qualities.

Soils that have profiles that are almost alike make up a *soil series*. Except for differences in texture of the surface layer, all the soils of a series have major horizons that are similar in composition, thickness, and arrangement.

Soils of one series can differ in texture of the surface layer, slope, stoniness, salinity, degree of erosion, and other characteristics that affect their use. On the basis of such differences, a soil series is divided into *soil phases*. Most of the areas shown on the detailed soil maps are phases of soil series. The name of a soil phase commonly indicates a feature that affects use or management. For example, Alpha silt loam, 0 to 2 percent slopes, is a phase of the Alpha series.

Some map units are made up of two or more major soils or miscellaneous areas. These map units are complexes, associations, or undifferentiated groups.

A *complex* consists of two or more soils or miscellaneous areas in such an intricate pattern or in such small areas that they cannot be shown separately on the maps. The pattern and proportion of the soils or miscellaneous areas are somewhat similar in all areas. Alpha-Beta complex, 0 to 6 percent slopes, is an example.

An *association* is made up of two or more geographically associated soils or miscellaneous areas that are shown as one unit on the maps. Because of present or anticipated uses of the map units in the survey area, it was not considered practical or necessary to map the soils or miscellaneous areas separately. The pattern and relative proportion of the soils or miscellaneous areas are somewhat similar. Alpha-Beta association, 0 to 2 percent slopes, is an example.

An *undifferentiated group* is made up of two or more soils or miscellaneous areas that could be mapped individually but are mapped as one unit because similar interpretations can be made for use and management. The pattern and proportion of the soils or miscellaneous areas in a mapped area are not uniform. An area can be made up of only one of the major soils or miscellaneous areas, or it can be made up of all of them. Alpha and Beta soils, 0 to 2 percent slopes, is an example.

Some surveys include *miscellaneous areas*. Such areas have little or no soil material and support little or no vegetation. Rock outcrop is an example.

Washoe County, Nevada, South Part

131—Greenbrae fine sandy loam, 0 to 2 percent slopes

Map Unit Setting

National map unit symbol: 2w36x
Elevation: 4,670 to 5,740 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 48 to 52 degrees F
Frost-free period: 100 to 120 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Greenbrae and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Greenbrae

Setting

Landform: Alluvial fans
Landform position (two-dimensional): Toeslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Loamy alluvium derived from granite over alluvium derived from granite

Typical profile

A1 - 0 to 2 inches: fine sandy loam
A2 - 2 to 10 inches: sandy loam
Bt - 10 to 41 inches: sandy clay loam
2C - 41 to 60 inches: gravelly sandy loam

Properties and qualities

Slope: 0 to 2 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: Very low
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Calcium carbonate, maximum content: 1 percent
Maximum salinity: Nonsaline to very slightly saline (0.0 to 2.0 mmhos/cm)
Available water capacity: Moderate (about 8.7 inches)

Interpretive groups

Land capability classification (irrigated): 2s
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: R026XY016NV - LOAMY 8-10 P.Z.
Hydric soil rating: No

Minor Components

Indian creek

Percent of map unit: 4 percent
Landform: Fan remnants
Landform position (two-dimensional): Backslope
Landform position (three-dimensional): Side slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY025NV - CLAYPAN 8-10 P.Z.
Hydric soil rating: No

Haybourne

Percent of map unit: 4 percent
Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Linear
Ecological site: R026XY016NV - LOAMY 8-10 P.Z.
Other vegetative classification: GRAVELLY LOAM 8-10 P.Z. (026XY098NV_2)
Hydric soil rating: No

Northmore

Percent of map unit: 3 percent
Landform: Fan remnants
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY010NV - LOAMY 10-12 P.Z.
Hydric soil rating: No

Shree

Percent of map unit: 2 percent
Landform: Alluvial fans
Landform position (two-dimensional): Footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY010NV - LOAMY 10-12 P.Z.
Hydric soil rating: No

Eastval

Percent of map unit: 2 percent
Landform: Fan remnants
Landform position (two-dimensional): Toeslope, footslope
Landform position (three-dimensional): Base slope
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY016NV - LOAMY 8-10 P.Z.
Hydric soil rating: No

132—Greenbrae sandy loam, 2 to 4 percent slopes

Map Unit Setting

National map unit symbol: hxdv
Elevation: 4,500 to 5,500 feet
Mean annual precipitation: 8 to 10 inches
Mean annual air temperature: 48 to 50 degrees F
Frost-free period: 100 to 110 days
Farmland classification: Prime farmland if irrigated

Map Unit Composition

Greenbrae and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Greenbrae

Setting

Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Alluvium derived from granitic rocks

Typical profile

H1 - 0 to 8 inches: sandy loam
H2 - 8 to 28 inches: sandy clay loam
H3 - 28 to 63 inches: stratified coarse sand to gravelly loam

Properties and qualities

Slope: 2 to 4 percent
Depth to restrictive feature: More than 80 inches
Drainage class: Well drained
Runoff class: High
Capacity of the most limiting layer to transmit water (Ksat): Moderately low to moderately high (0.06 to 0.20 in/hr)
Depth to water table: More than 80 inches
Frequency of flooding: None
Frequency of ponding: None
Available water capacity: Moderate (about 8.3 inches)

Interpretive groups

Land capability classification (irrigated): 2e
Land capability classification (nonirrigated): 6s
Hydrologic Soil Group: C
Ecological site: R026XY016NV - LOAMY 8-10 P.Z.
Hydric soil rating: No

Minor Components

Northmore

Percent of map unit: 5 percent
Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY010NV - LOAMY 10-12 P.Z.
Hydric soil rating: No

Orr variant

Percent of map unit: 5 percent
Landform: Fan piedmonts
Down-slope shape: Convex
Across-slope shape: Convex
Ecological site: R026XY016NV - LOAMY 8-10 P.Z.
Hydric soil rating: No

Indian creek

Percent of map unit: 5 percent
Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Convex
Ecological site: R026XY025NV - CLAYPAN 8-10 P.Z.
Hydric soil rating: No

171—Indian Creek gravelly sandy loam, 0 to 4 percent slopes

Map Unit Setting

National map unit symbol: hxgs
Elevation: 4,500 to 5,500 feet
Mean annual precipitation: 8 to 12 inches
Mean annual air temperature: 48 to 51 degrees F
Frost-free period: 90 to 100 days
Farmland classification: Not prime farmland

Map Unit Composition

Indian creek and similar soils: 85 percent
Minor components: 15 percent
Estimates are based on observations, descriptions, and transects of the mapunit.

Description of Indian Creek

Setting

Landform: Fan remnants
Down-slope shape: Linear
Across-slope shape: Convex
Parent material: Mixed alluvium

Custom Soil Resource Report

Typical profile

H1 - 0 to 3 inches: gravelly sandy loam

H2 - 3 to 20 inches: gravelly clay

H3 - 20 to 25 inches: cemented material

H4 - 25 to 60 inches: stratified extremely gravelly loamy coarse sand to gravelly sandy clay loam

Properties and qualities

Slope: 0 to 4 percent

Depth to restrictive feature: 14 to 20 inches to duripan

Drainage class: Well drained

Runoff class: Very high

Capacity of the most limiting layer to transmit water (Ksat): Very low (0.00 to 0.00 in/hr)

Depth to water table: More than 80 inches

Frequency of flooding: None

Frequency of ponding: None

Calcium carbonate, maximum content: 5 percent

Maximum salinity: Nonsaline to slightly saline (0.0 to 4.0 mmhos/cm)

Sodium adsorption ratio, maximum: 5.0

Available water capacity: Very low (about 2.8 inches)

Interpretive groups

Land capability classification (irrigated): None specified

Land capability classification (nonirrigated): 7s

Hydrologic Soil Group: D

Ecological site: R026XY025NV - CLAYPAN 8-10 P.Z.

Hydric soil rating: No

Minor Components

Northmore

Percent of map unit: 5 percent

Landform: Fan remnants

Down-slope shape: Linear

Across-slope shape: Convex

Ecological site: R026XY010NV - LOAMY 10-12 P.Z.

Hydric soil rating: No

Cassiro

Percent of map unit: 5 percent

Landform: Fan remnants

Down-slope shape: Linear

Across-slope shape: Convex

Ecological site: R026XY010NV - LOAMY 10-12 P.Z.

Hydric soil rating: No

Washoe

Percent of map unit: 5 percent

Landform: Fan remnants

Down-slope shape: Linear

Across-slope shape: Convex

Ecological site: R026XY016NV - LOAMY 8-10 P.Z.

Hydric soil rating: No

Custom Soil Resource Report

Soil Information for All Uses

Soil Properties and Qualities

The Soil Properties and Qualities section includes various soil properties and qualities displayed as thematic maps with a summary table for the soil map units in the selected area of interest. A single value or rating for each map unit is generated by aggregating the interpretive ratings of individual map unit components. This aggregation process is defined for each property or quality.

Soil Physical Properties

Soil Physical Properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Saturated Hydraulic Conductivity (Ksat)

Saturated hydraulic conductivity (Ksat) refers to the ease with which pores in a saturated soil transmit water. The estimates are expressed in terms of micrometers per second. They are based on soil characteristics observed in the field, particularly structure, porosity, and texture. Saturated hydraulic conductivity is considered in the design of soil drainage systems and septic tank absorption fields.

For each soil layer, this attribute is actually recorded as three separate values in the database. A low value and a high value indicate the range of this attribute for the soil component. A "representative" value indicates the expected value of this attribute for the component. For this soil property, only the representative value is used.

The numeric Ksat values have been grouped according to standard Ksat class limits.

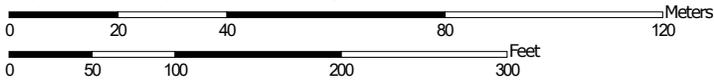
Custom Soil Resource Report

Map—Saturated Hydraulic Conductivity (Ksat)



Soil Map may not be valid at this scale.

Map Scale: 1:1,380 if printed on A landscape (11" x 8.5") sheet.



Map projection: Web Mercator Corner coordinates: WGS84 Edge tics: UTM Zone 11N WGS84

MAP LEGEND

- Area of Interest (AOI)**
 Area of Interest (AOI)
- Background**
 Aerial Photography
- Soils**
 - Soil Rating Polygons**
 -  <= 5.7218
 -  > 5.7218 and <= 6.6818
 -  > 6.6818 and <= 13.9941
 -  Not rated or not available
 - Soil Rating Lines**
 -  <= 5.7218
 -  > 5.7218 and <= 6.6818
 -  > 6.6818 and <= 13.9941
 -  Not rated or not available
 - Soil Rating Points**
 -  <= 5.7218
 -  > 5.7218 and <= 6.6818
 -  > 6.6818 and <= 13.9941
 -  Not rated or not available
- Water Features**
 -  Streams and Canals
- Transportation**
 -  Rails
 -  Interstate Highways
 -  US Routes
 -  Major Roads
 -  Local Roads

MAP INFORMATION

The soil surveys that comprise your AOI were mapped at 1:24,000.

Warning: Soil Map may not be valid at this scale.

Enlargement of maps beyond the scale of mapping can cause misunderstanding of the detail of mapping and accuracy of soil line placement. The maps do not show the small areas of contrasting soils that could have been shown at a more detailed scale.

Please rely on the bar scale on each map sheet for map measurements.

Source of Map: Natural Resources Conservation Service
 Web Soil Survey URL:
 Coordinate System: Web Mercator (EPSG:3857)

Maps from the Web Soil Survey are based on the Web Mercator projection, which preserves direction and shape but distorts distance and area. A projection that preserves area, such as the Albers equal-area conic projection, should be used if more accurate calculations of distance or area are required.

This product is generated from the USDA-NRCS certified data as of the version date(s) listed below.

Soil Survey Area: Washoe County, Nevada, South Part
 Survey Area Data: Version 17, Aug 26, 2020

Soil map units are labeled (as space allows) for map scales 1:50,000 or larger.

Date(s) aerial images were photographed: Aug 1, 2018—Oct 1, 2018

The orthophoto or other base map on which the soil lines were compiled and digitized probably differs from the background imagery displayed on these maps. As a result, some minor shifting of map unit boundaries may be evident.

Table—Saturated Hydraulic Conductivity (Ksat)

Map unit symbol	Map unit name	Rating (micrometers per second)	Acres in AOI	Percent of AOI
131	Greenbrae fine sandy loam, 0 to 2 percent slopes	5.7218	5.1	55.0%
132	Greenbrae sandy loam, 2 to 4 percent slopes	6.6818	3.9	42.8%
171	Indian Creek gravelly sandy loam, 0 to 4 percent slopes	13.9941	0.2	2.3%
Totals for Area of Interest			9.2	100.0%

Rating Options—Saturated Hydraulic Conductivity (Ksat)

Units of Measure: micrometers per second

Aggregation Method: Dominant Component

Component Percent Cutoff: None Specified

Tie-break Rule: Fastest

Interpret Nulls as Zero: No

Layer Options (Horizon Aggregation Method): Depth Range (Weighted Average)

Top Depth: 6

Bottom Depth: 60

Units of Measure: Inches

Soil Reports

The Soil Reports section includes various formatted tabular and narrative reports (tables) containing data for each selected soil map unit and each component of each unit. No aggregation of data has occurred as is done in reports in the Soil Properties and Qualities and Suitabilities and Limitations sections.

The reports contain soil interpretive information as well as basic soil properties and qualities. A description of each report (table) is included.

Soil Physical Properties

This folder contains a collection of tabular reports that present soil physical properties. The reports (tables) include all selected map units and components for each map unit. Soil physical properties are measured or inferred from direct observations in the field or laboratory. Examples of soil physical properties include percent clay, organic matter, saturated hydraulic conductivity, available water capacity, and bulk density.

Engineering Properties

This table gives the engineering classifications and the range of engineering properties for the layers of each soil in the survey area.

Hydrologic soil group is a group of soils having similar runoff potential under similar storm and cover conditions. The criteria for determining Hydrologic soil group is found in the National Engineering Handbook, Chapter 7 issued May 2007(<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Listing HSGs by soil map unit component and not by soil series is a new concept for the engineers. Past engineering references contained lists of HSGs by soil series. Soil series are continually being defined and redefined, and the list of soil series names changes so frequently as to make the task of maintaining a single national list virtually impossible. Therefore, the criteria is now used to calculate the HSG using the component soil properties and no such national series lists will be maintained. All such references are obsolete and their use should be discontinued. Soil properties that influence runoff potential are those that influence the minimum rate of infiltration for a bare soil after prolonged wetting and when not frozen. These properties are depth to a seasonal high water table, saturated hydraulic conductivity after prolonged wetting, and depth to a layer with a very slow water transmission rate. Changes in soil properties caused by land management or climate changes also cause the hydrologic soil group to change. The influence of ground cover is treated independently. There are four hydrologic soil groups, A, B, C, and D, and three dual groups, A/D, B/D, and C/D. In the dual groups, the first letter is for drained areas and the second letter is for undrained areas.

The four hydrologic soil groups are described in the following paragraphs:

Group A. Soils having a high infiltration rate (low runoff potential) when thoroughly wet. These consist mainly of deep, well drained to excessively drained sands or gravelly sands. These soils have a high rate of water transmission.

Custom Soil Resource Report

Group B. Soils having a moderate infiltration rate when thoroughly wet. These consist chiefly of moderately deep or deep, moderately well drained or well drained soils that have moderately fine texture to moderately coarse texture. These soils have a moderate rate of water transmission.

Group C. Soils having a slow infiltration rate when thoroughly wet. These consist chiefly of soils having a layer that impedes the downward movement of water or soils of moderately fine texture or fine texture. These soils have a slow rate of water transmission.

Group D. Soils having a very slow infiltration rate (high runoff potential) when thoroughly wet. These consist chiefly of clays that have a high shrink-swell potential, soils that have a high water table, soils that have a claypan or clay layer at or near the surface, and soils that are shallow over nearly impervious material. These soils have a very slow rate of water transmission.

Depth to the upper and lower boundaries of each layer is indicated.

Texture is given in the standard terms used by the U.S. Department of Agriculture. These terms are defined according to percentages of sand, silt, and clay in the fraction of the soil that is less than 2 millimeters in diameter. "Loam," for example, is soil that is 7 to 27 percent clay, 28 to 50 percent silt, and less than 52 percent sand. If the content of particles coarser than sand is 15 percent or more, an appropriate modifier is added, for example, "gravelly."

Classification of the soils is determined according to the Unified soil classification system (ASTM, 2005) and the system adopted by the American Association of State Highway and Transportation Officials (AASHTO, 2004).

The Unified system classifies soils according to properties that affect their use as construction material. Soils are classified according to particle-size distribution of the fraction less than 3 inches in diameter and according to plasticity index, liquid limit, and organic matter content. Sandy and gravelly soils are identified as GW, GP, GM, GC, SW, SP, SM, and SC; silty and clayey soils as ML, CL, OL, MH, CH, and OH; and highly organic soils as PT. Soils exhibiting engineering properties of two groups can have a dual classification, for example, CL-ML.

The AASHTO system classifies soils according to those properties that affect roadway construction and maintenance. In this system, the fraction of a mineral soil that is less than 3 inches in diameter is classified in one of seven groups from A-1 through A-7 on the basis of particle-size distribution, liquid limit, and plasticity index. Soils in group A-1 are coarse grained and low in content of fines (silt and clay). At the other extreme, soils in group A-7 are fine grained. Highly organic soils are classified in group A-8 on the basis of visual inspection.

If laboratory data are available, the A-1, A-2, and A-7 groups are further classified as A-1-a, A-1-b, A-2-4, A-2-5, A-2-6, A-2-7, A-7-5, or A-7-6. As an additional refinement, the suitability of a soil as subgrade material can be indicated by a group index number. Group index numbers range from 0 for the best subgrade material to 20 or higher for the poorest.

Percentage of rock fragments larger than 10 inches in diameter and 3 to 10 inches in diameter are indicated as a percentage of the total soil on a dry-weight basis. The percentages are estimates determined mainly by converting volume percentage in the field to weight percentage. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Percentage (of soil particles) passing designated sieves is the percentage of the soil fraction less than 3 inches in diameter based on an oven-dry weight. The sieves,

Custom Soil Resource Report

numbers 4, 10, 40, and 200 (USA Standard Series), have openings of 4.76, 2.00, 0.420, and 0.074 millimeters, respectively. Estimates are based on laboratory tests of soils sampled in the survey area and in nearby areas and on estimates made in the field. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Liquid limit and *plasticity index* (Atterberg limits) indicate the plasticity characteristics of a soil. The estimates are based on test data from the survey area or from nearby areas and on field examination. Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

References:

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.

Custom Soil Resource Report

Absence of an entry indicates that the data were not estimated. The asterisk '*' denotes the representative texture; other possible textures follow the dash. The criteria for determining the hydrologic soil group for individual soil components is found in the National Engineering Handbook, Chapter 7 issued May 2007(<http://directives.sc.egov.usda.gov/OpenNonWebContent.aspx?content=17757.wba>). Three values are provided to identify the expected Low (L), Representative Value (R), and High (H).

Engineering Properties—Washoe County, Nevada, South Part														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			<i>In</i>				<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>
131—Greenbrae fine sandy loam, 0 to 2 percent slopes														
Greenbrae	85	C	0-2	Fine sandy loam	SC	A-2-4	0- 0- 0	0- 0- 0	92-95-100	76-86-100	63-80-96	23-34-44	17-27-32	1-8 -12
			2-10	Sandy loam	SC-SM	A-2-4	0- 0- 0	0- 0- 0	92-92-100	77-84-92	57-65-75	28-33-39	0-21 -25	NP-6 -7
			10-41	Clay loam, sandy clay loam, sandy clay, loam	SC	A-6	0- 0- 0	0- 0- 0	92-92-100	76-84-92	64-72-89	36-41-55	31-35-46	14-17-25
			41-60	Gravelly sandy loam, loam, gravelly coarse sand, gravelly loamy sand	SC	A-2-4	0- 0- 0	0- 0- 0	86-92-93	52-77-80	36-60-66	17-31-36	0-21 -26	NP-8 -10
132—Greenbrae sandy loam, 2 to 4 percent slopes														
Greenbrae	85	C	0-8	Sandy loam	SM	A-2	0- 0- 0	0- 0- 0	95-98-100	90-95-100	65-70-75	20-28-35	20-23-25	NP-3 -5
			8-28	Clay loam, sandy clay loam, sandy clay	CL, SC	A-6, A-7	0- 0- 0	0- 0- 0	95-98-100	90-95-100	70-78-85	40-53-65	35-40-45	15-20-25
			28-63	Stratified coarse sand to gravelly loam	SM	A-2	0- 0- 0	0- 0- 0	90-95-100	75-88-100	45-53-60	25-30-35	0-21 -27	NP

Custom Soil Resource Report

Engineering Properties—Washoe County, Nevada, South Part														
Map unit symbol and soil name	Pct. of map unit	Hydrologic group	Depth	USDA texture	Classification		Pct Fragments		Percentage passing sieve number—				Liquid limit	Plasticity index
					Unified	AASHTO	>10 inches	3-10 inches	4	10	40	200		
			<i>In</i>				<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>	<i>L-R-H</i>
171—Indian Creek gravelly sandy loam, 0 to 4 percent slopes														
Indian creek	85	D	0-3	Gravelly sandy loam	SC-SM, SC	A-1, A-2	0- 0- 0	0- 3- 5	60-70- 80	50-60- 70	35-45- 55	15-25- 35	20-23 -25	5-8 -10
			3-20	Gravelly clay, clay, sandy clay	CH	A-7	0- 0- 0	0- 3- 5	80-90-1 00	60-75- 90	55-68- 80	50-65- 80	55-63 -70	30-38-4 5
			20-25	Cemented material	—	—	—	—	—	—	—	—	—	—
			25-60	Stratified extremely gravelly loamy coarse sand to gravelly sandy clay loam	GC-GM, GM, GW- GM, GP-GC	A-1, A-2	0- 0- 0	5-18- 30	35-45- 55	30-43- 55	15-20- 25	5-10- 15	20-25 -30	NP-5 -10

References

- American Association of State Highway and Transportation Officials (AASHTO). 2004. Standard specifications for transportation materials and methods of sampling and testing. 24th edition.
- American Society for Testing and Materials (ASTM). 2005. Standard classification of soils for engineering purposes. ASTM Standard D2487-00.
- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of wetlands and deep-water habitats of the United States. U.S. Fish and Wildlife Service FWS/OBS-79/31.
- Federal Register. July 13, 1994. Changes in hydric soils of the United States.
- Federal Register. September 18, 2002. Hydric soils of the United States.
- Hurt, G.W., and L.M. Vasilas, editors. Version 6.0, 2006. Field indicators of hydric soils in the United States.
- National Research Council. 1995. Wetlands: Characteristics and boundaries.
- Soil Survey Division Staff. 1993. Soil survey manual. Soil Conservation Service. U.S. Department of Agriculture Handbook 18. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_054262
- Soil Survey Staff. 1999. Soil taxonomy: A basic system of soil classification for making and interpreting soil surveys. 2nd edition. Natural Resources Conservation Service, U.S. Department of Agriculture Handbook 436. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053577
- Soil Survey Staff. 2010. Keys to soil taxonomy. 11th edition. U.S. Department of Agriculture, Natural Resources Conservation Service. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053580
- Tiner, R.W., Jr. 1985. Wetlands of Delaware. U.S. Fish and Wildlife Service and Delaware Department of Natural Resources and Environmental Control, Wetlands Section.
- United States Army Corps of Engineers, Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Waterways Experiment Station Technical Report Y-87-1.
- United States Department of Agriculture, Natural Resources Conservation Service. National forestry manual. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/home/?cid=nrcs142p2_053374
- United States Department of Agriculture, Natural Resources Conservation Service. National range and pasture handbook. <http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/landuse/rangepasture/?cid=stelprdb1043084>

Custom Soil Resource Report

United States Department of Agriculture, Natural Resources Conservation Service. National soil survey handbook, title 430-VI. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/soils/scientists/?cid=nrcs142p2_054242

United States Department of Agriculture, Natural Resources Conservation Service. 2006. Land resource regions and major land resource areas of the United States, the Caribbean, and the Pacific Basin. U.S. Department of Agriculture Handbook 296. http://www.nrcs.usda.gov/wps/portal/nrcs/detail/national/soils/?cid=nrcs142p2_053624

United States Department of Agriculture, Soil Conservation Service. 1961. Land capability classification. U.S. Department of Agriculture Handbook 210. http://www.nrcs.usda.gov/Internet/FSE_DOCUMENTS/nrcs142p2_052290.pdf



NOAA Atlas 14, Volume 1, Version 5
Location name: Sun Valley, Nevada, USA*
Latitude: 39.6053°, Longitude: -119.7694°
Elevation: 4779.51 ft**



* source: ESRI Maps
 ** source: USGS

POINT PRECIPITATION FREQUENCY ESTIMATES

Sanja Perica, Sarah Dietz, Sarah Heim, Lillian Hiner, Kazungu Maitaria, Deborah Martin, Sandra Pavlovic, Ishani Roy, Carl Tryppaluk, Dale Unruh, Fenglin Yan, Michael Yekta, Tan Zhao, Geoffrey Bonnin, Daniel Brewer, Li-Chuan Chen, Tye Parzybok, John Yarchoan

NOAA, National Weather Service, Silver Spring, Maryland

[PF_tabular](#) | [PF_graphical](#) | [Maps_&_aerials](#)

PF tabular

PDS-based point precipitation frequency estimates with 90% confidence intervals (in inches/hour)¹										
Duration	Average recurrence interval (years)									
	1	2	5	10	25	50	100	200	500	1000
5-min	1.14 (0.960-1.32)	1.42 (1.20-1.66)	1.91 (1.62-2.24)	2.38 (2.00-2.82)	3.17 (2.62-3.82)	3.91 (3.14-4.78)	4.80 (3.74-5.95)	5.89 (4.42-7.48)	7.67 (5.42-10.1)	9.31 (6.31-12.5)
10-min	0.870 (0.732-1.00)	1.08 (0.912-1.27)	1.45 (1.23-1.71)	1.81 (1.53-2.14)	2.41 (2.00-2.90)	2.98 (2.39-3.63)	3.65 (2.84-4.54)	4.48 (3.35-5.69)	5.84 (4.13-7.67)	7.09 (4.80-9.53)
15-min	0.716 (0.604-0.828)	0.892 (0.752-1.04)	1.20 (1.02-1.41)	1.50 (1.26-1.77)	1.99 (1.65-2.40)	2.46 (1.98-3.00)	3.02 (2.35-3.75)	3.70 (2.78-4.70)	4.82 (3.41-6.34)	5.85 (3.97-7.88)
30-min	0.484 (0.408-0.558)	0.602 (0.508-0.702)	0.808 (0.686-0.950)	1.01 (0.850-1.19)	1.34 (1.11-1.61)	1.66 (1.33-2.02)	2.03 (1.58-2.52)	2.49 (1.87-3.17)	3.25 (2.30-4.27)	3.94 (2.67-5.31)
60-min	0.299 (0.252-0.345)	0.372 (0.314-0.435)	0.500 (0.424-0.588)	0.622 (0.526-0.738)	0.829 (0.687-0.998)	1.02 (0.824-1.25)	1.26 (0.980-1.56)	1.54 (1.16-1.96)	2.01 (1.42-2.64)	2.44 (1.65-3.28)
2-hr	0.198 (0.176-0.228)	0.246 (0.218-0.284)	0.316 (0.277-0.364)	0.377 (0.327-0.435)	0.473 (0.398-0.550)	0.560 (0.460-0.660)	0.662 (0.529-0.790)	0.792 (0.613-0.990)	1.05 (0.762-1.33)	1.28 (0.896-1.66)
3-hr	0.159 (0.143-0.180)	0.198 (0.178-0.225)	0.248 (0.222-0.281)	0.289 (0.256-0.329)	0.347 (0.302-0.397)	0.399 (0.341-0.461)	0.461 (0.387-0.541)	0.548 (0.449-0.666)	0.703 (0.557-0.897)	0.860 (0.654-1.12)
6-hr	0.114 (0.103-0.128)	0.142 (0.128-0.160)	0.176 (0.158-0.198)	0.202 (0.180-0.227)	0.236 (0.207-0.267)	0.261 (0.226-0.298)	0.286 (0.245-0.331)	0.319 (0.268-0.373)	0.381 (0.313-0.453)	0.446 (0.361-0.565)
12-hr	0.075 (0.068-0.084)	0.094 (0.085-0.105)	0.119 (0.106-0.133)	0.138 (0.122-0.154)	0.162 (0.143-0.183)	0.182 (0.158-0.206)	0.201 (0.172-0.232)	0.220 (0.185-0.257)	0.247 (0.202-0.294)	0.269 (0.216-0.326)
24-hr	0.048 (0.043-0.054)	0.060 (0.054-0.068)	0.077 (0.069-0.086)	0.091 (0.081-0.102)	0.109 (0.097-0.123)	0.125 (0.110-0.140)	0.140 (0.123-0.159)	0.157 (0.135-0.179)	0.180 (0.153-0.207)	0.199 (0.166-0.230)
2-day	0.029 (0.026-0.033)	0.036 (0.032-0.041)	0.047 (0.042-0.053)	0.056 (0.049-0.063)	0.068 (0.059-0.077)	0.078 (0.067-0.089)	0.088 (0.076-0.101)	0.099 (0.084-0.115)	0.115 (0.095-0.135)	0.128 (0.104-0.152)
3-day	0.021 (0.019-0.024)	0.027 (0.024-0.030)	0.035 (0.031-0.039)	0.041 (0.036-0.047)	0.050 (0.044-0.057)	0.058 (0.050-0.066)	0.066 (0.057-0.076)	0.075 (0.063-0.087)	0.087 (0.072-0.102)	0.097 (0.079-0.115)
4-day	0.017 (0.015-0.019)	0.022 (0.019-0.025)	0.028 (0.025-0.032)	0.034 (0.030-0.038)	0.042 (0.036-0.048)	0.048 (0.042-0.055)	0.055 (0.047-0.063)	0.063 (0.053-0.072)	0.073 (0.060-0.086)	0.082 (0.067-0.097)
7-day	0.011 (0.010-0.013)	0.015 (0.013-0.017)	0.019 (0.017-0.022)	0.023 (0.020-0.027)	0.029 (0.025-0.033)	0.033 (0.028-0.038)	0.038 (0.032-0.044)	0.043 (0.036-0.050)	0.050 (0.041-0.060)	0.056 (0.045-0.067)
10-day	0.009 (0.008-0.010)	0.012 (0.010-0.013)	0.015 (0.013-0.018)	0.018 (0.016-0.021)	0.022 (0.019-0.026)	0.026 (0.022-0.030)	0.029 (0.025-0.034)	0.033 (0.028-0.039)	0.038 (0.031-0.045)	0.042 (0.034-0.051)
20-day	0.006 (0.005-0.006)	0.007 (0.006-0.008)	0.009 (0.008-0.011)	0.011 (0.010-0.013)	0.014 (0.012-0.016)	0.016 (0.013-0.018)	0.018 (0.015-0.020)	0.020 (0.017-0.023)	0.022 (0.019-0.026)	0.025 (0.020-0.029)
30-day	0.004 (0.004-0.005)	0.006 (0.005-0.006)	0.007 (0.006-0.008)	0.009 (0.008-0.010)	0.011 (0.009-0.012)	0.012 (0.010-0.014)	0.014 (0.012-0.016)	0.015 (0.013-0.018)	0.017 (0.014-0.020)	0.019 (0.016-0.022)
45-day	0.003 (0.003-0.004)	0.004 (0.004-0.005)	0.006 (0.005-0.007)	0.007 (0.006-0.008)	0.008 (0.007-0.009)	0.009 (0.008-0.011)	0.011 (0.009-0.012)	0.012 (0.010-0.013)	0.013 (0.011-0.015)	0.014 (0.012-0.017)
60-day	0.003 (0.003-0.003)	0.004 (0.003-0.004)	0.005 (0.004-0.006)	0.006 (0.005-0.007)	0.007 (0.006-0.008)	0.008 (0.007-0.009)	0.009 (0.007-0.010)	0.010 (0.008-0.011)	0.011 (0.009-0.012)	0.011 (0.009-0.013)

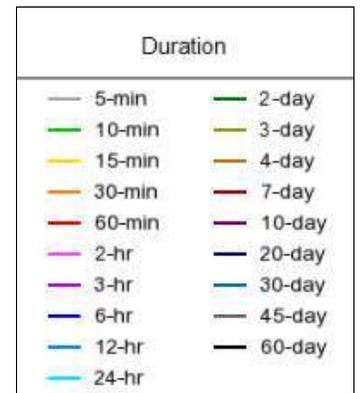
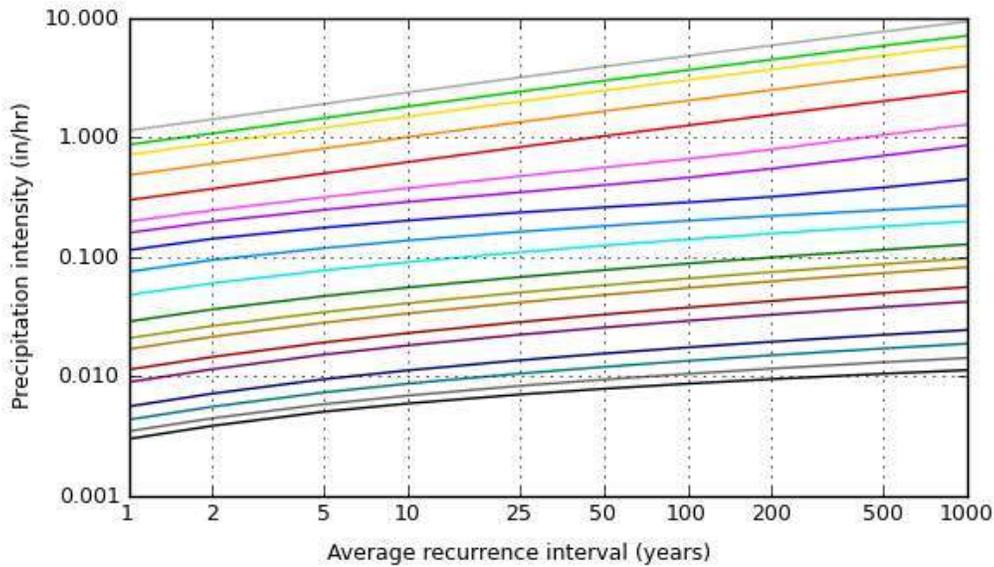
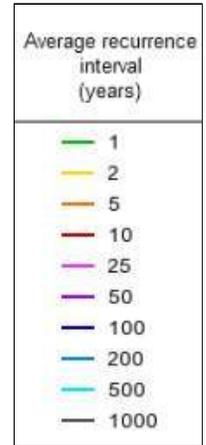
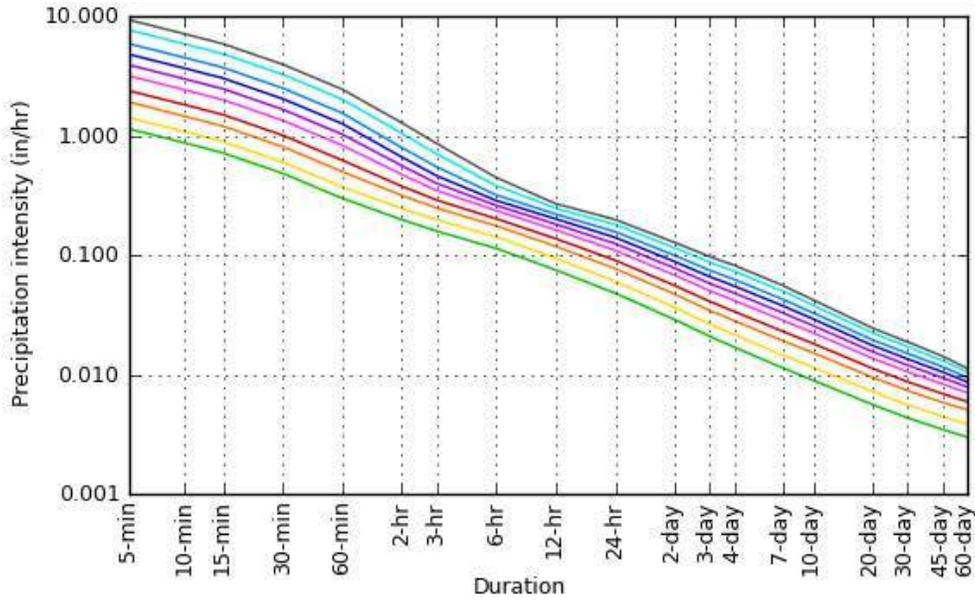
¹ Precipitation frequency (PF) estimates in this table are based on frequency analysis of partial duration series (PDS). Numbers in parenthesis are PF estimates at lower and upper bounds of the 90% confidence interval. The probability that precipitation frequency estimates (for a given duration and average recurrence interval) will be greater than the upper bound (or less than the lower bound) is 5%. Estimates at upper bounds are not checked against probable maximum precipitation (PMP) estimates and may be higher than currently valid PMP values. Please refer to NOAA Atlas 14 document for more information.

[Back to Top](#)

PF graphical

PDS-based intensity-duration-frequency (IDF) curves

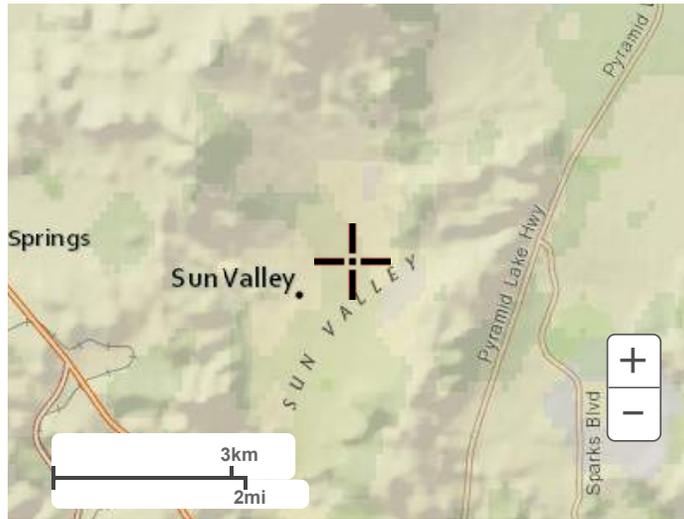
Latitude: 39.6053°, Longitude: -119.7694°



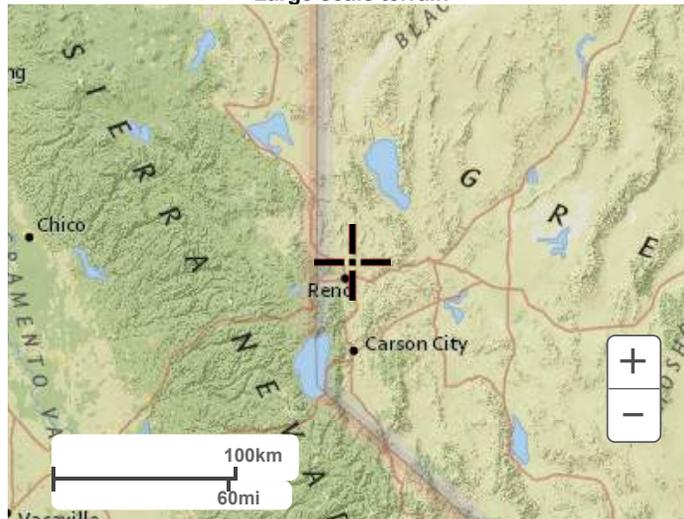
[Back to Top](#)

Maps & aerials

Small scale terrain



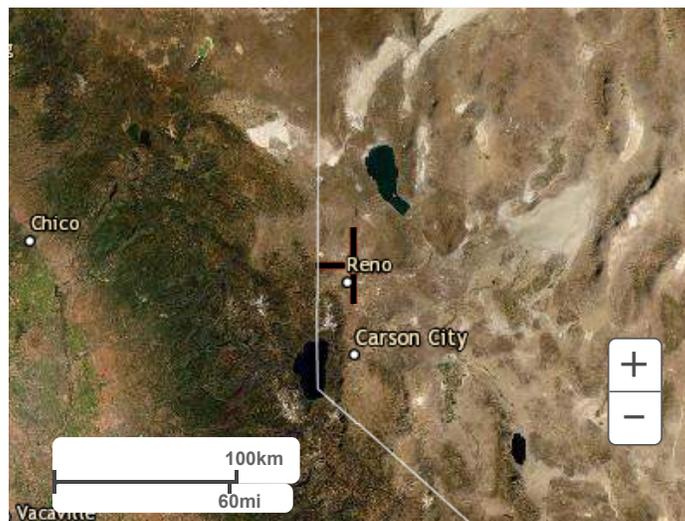
Large scale terrain



Large scale map



Large scale aerial



[Back to Top](#)

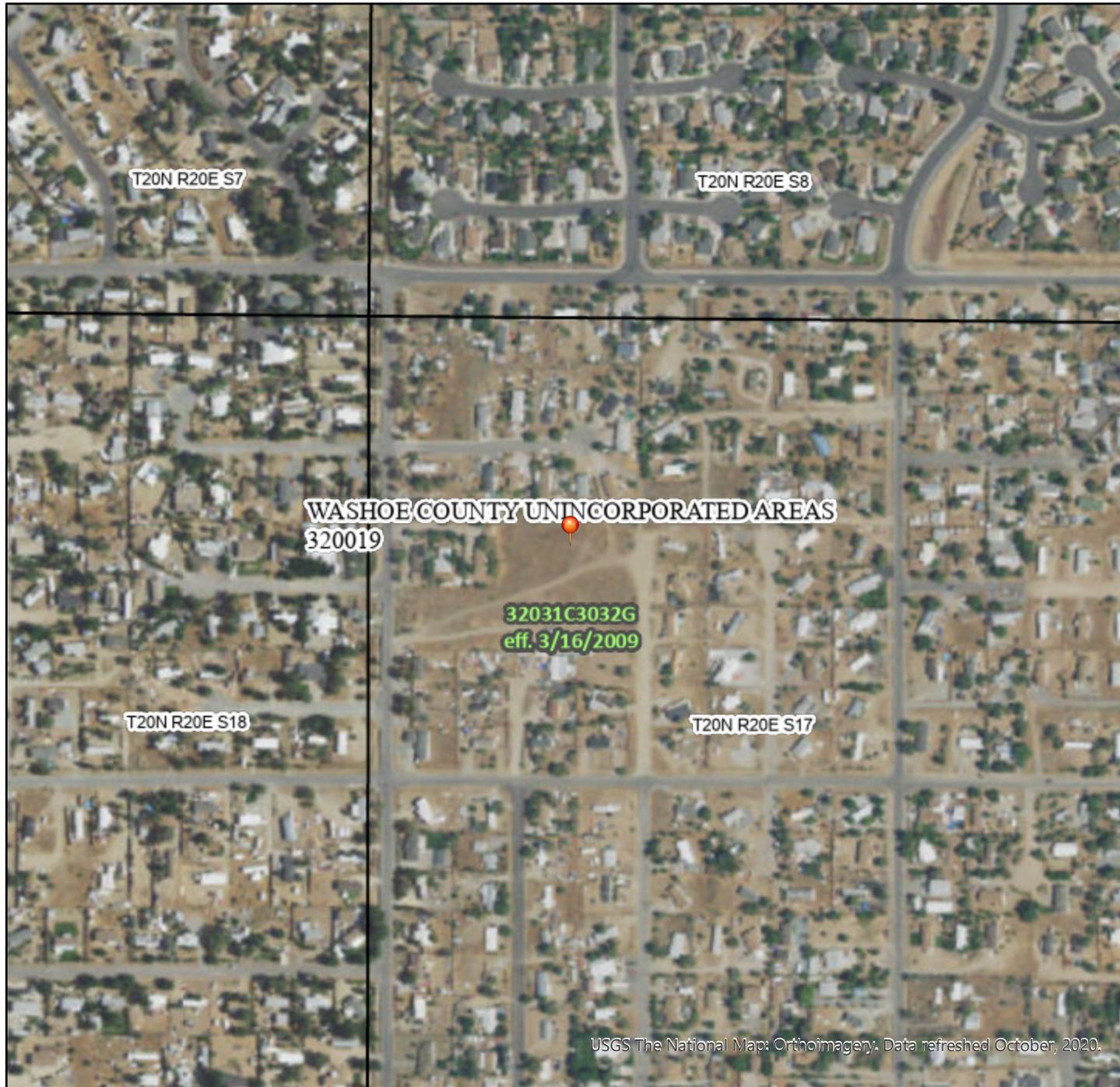
[US Department of Commerce](#)
[National Oceanic and Atmospheric Administration](#)
[National Weather Service](#)
[National Water Center](#)
1325 East West Highway
Silver Spring, MD 20910
Questions?: HDSC.Questions@noaa.gov

[Disclaimer](#)

National Flood Hazard Layer FIRMette



119°46'28"W 39°36'33"N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) <i>Zone A, V, A99</i>
		With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>
		Regulatory Floodway

OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i>
		Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>
		Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>
		Area with Flood Risk due to Levee <i>Zone D</i>

OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>
		Effective LOMRs
		Area of Undetermined Flood Hazard <i>Zone D</i>

GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall

OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance Water Surface Elevation
		17.5 Cross Sections with 1% Annual Chance Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
OTHER FEATURES		Coastal Transect Baseline
		Profile Baseline
		Hydrographic Feature

MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

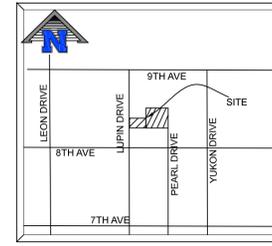
This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 1/8/2021 at 3:28 PM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

USGS The National Map: Orthoimagery. Data refreshed October, 2020.

PEARL SUBDIVISION MAP



VICINITY MAP

N.T.S.

OWNERS CERTIFICATE:

THIS IS TO CERTIFY THAT THE UNDERSIGNED, CALEB ASSOCIATES LLC., IS THE OWNER OF THE TRACT OF LAND REPRESENTED ON THIS PLAT AND HAS CONSENTED TO THE PREPARATION AND RECORDATION OF THIS PLAT, THAT THE SAME IS EXECUTED IN COMPLIANCE WITH AND SUBJECT TO THE PROVISIONS OF N.R.S. CHAPTER 278, AND THAT THE EASEMENTS AS SHOWN FOR ACCESS, UTILITY, SNOW STORAGE, SIGNAGE AND DRAINAGE ARE HEREBY GRANTED.

CALEB ASSOCIATES LLC.

KEVIN WARD DATE: _____

NOTARY PUBLIC ACKNOWLEDGMENT

STATE OF NEVADA)
COUNTY OF WASHOE) s.s.

ON THIS _____ DAY OF _____, 2021, PERSONALLY APPEARED BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, KNOWN TO ME ON THE BASIS OF SATISFACTORY EVIDENCE TO BE THE PERSON WHO EXECUTED THE ABOVE INSTRUMENT FOR THE PURPOSE HEREIN STATED.

NOTARY PUBLIC

TITLE COMPANY'S CERTIFICATE:

THE UNDERSIGNED HEREBY CERTIFIES THAT THIS PLAT HAS BEEN EXAMINED AND THAT CALEB ASSOCIATES LLC., OWNS OF RECORD AN INTEREST IN THE LANDS DELINEATED HEREON AND THAT IT IS THE ONLY OWNER OF RECORD OF SAID LANDS; THAT ALL THE OWNERS OF RECORD OF THE LAND HAVE SIGNED THE FINAL MAP; THAT NO ONE HOLDS OF RECORD A SECURITY INTEREST IN THE LANDS TO BE DIVIDED AND THAT THERE ARE NO LIENS OF RECORD AGAINST THE LANDS DELINEATED HEREON FOR THE DELINQUENT STATE, COUNTY, MUNICIPAL, FEDERAL OR LOCAL TAXES OR ASSESSMENTS COLLECTED AS TAXES OF THE COUNTY OF WASHOE, STATE OF NEVADA, HAS BEEN ISSUED WITH REGARD TO ALL OF THE ABOVE.

FIRST CENTENNIAL TITLE COMPANY OF NEVADA

BY: _____ DATE: _____

PRINT NAME AND TITLE

COUNTY SURVEYOR'S CERTIFICATE:

I CERTIFY THAT I HAVE EXAMINED THIS PLAT CONSISTING OF TWO SHEETS, AND I AM SATISFIED SAID MAP IS TECHNICALLY CORRECT AND THAT AN ADEQUATE PERFORMANCE GUARANTEE HAS BEEN FILED GUARANTEEING THE MONUMENTS AS SHOWN WILL BE SET BY.

_____ DATE: _____

WASHOE COUNTY SURVEYOR

WATER AND SEWER RESOURCE REQUIREMENTS:

THE PROJECT/DEVELOPMENT DEPICTED ON THIS MAP IS IN CONFORMANCE WITH THE PROVISIONS OF ARTICLE 422 OF WASHOE COUNTY CHAPTER 110 DEVELOPMENT CODE.

WASHOE COUNTY COMMUNITY SERVICES DEPARTMENT DATE

DISTRICT BOARD OF HEALTH CERTIFICATE:

THIS MAP IS APPROVED BY THE WASHOE COUNTY DISTRICT BOARD OF HEALTH. THIS APPROVAL CONCERNS SEWAGE DISPOSAL, WATER POLLUTION, WATER QUALITY, AND WATER SUPPLY FACILITIES. THIS MAP HAS BEEN FOUND TO MEET ALL APPLICABLE REQUIREMENTS AND PROVISIONS OF THE ENVIRONMENTAL HEALTH SERVICES DIVISION OF THE WASHOE COUNTY HEALTH DISTRICT.

FOR THE DISTRICT BOARD OF HEALTH DATE

TAX CERTIFICATE:

THE UNDERSIGNED HEREBY CERTIFIES THAT ALL THE PROPERTY TAXES ON ASSESSOR'S PARCEL NUMBERS 085-461-02 AND 085-461-04 AND 085-461-03 FOR THE FISCAL YEAR HAVE BEEN PAID AND THAT THE FULL AMOUNT OF ANY DEFERRED PROPERTY TAXES FOR THE CONVERSION OF THE PROPERTY FROM AGRICULTURAL USE HAS BEEN PAID PURSUANT TO NRS 361A.265.

WASHOE COUNTY TREASURER

BY: _____ DATE: _____
DEPUTY TREASURER

SURVEYOR'S CERTIFICATE:

I, ERIC C. SAGE, A PROFESSIONAL LAND SURVEYOR LICENSED IN THE STATE OF NEVADA CERTIFY THAT:

1. THIS PLAT REPRESENTS THE RESULTS OF A SURVEY CONDUCTED UNDER MY DIRECT SUPERVISION AT THE INSTANCE OF CALEB ASSOCIATES LLC..
2. THE LANDS SURVEYED LIE WITHIN THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF THE OF SECTION 17, T. 20 N., R. 20 E., M.D.M. COUNTY OF WASHOE, STATE OF NEVADA; AND THE SURVEY WAS COMPLETED ON DECEMBER 16, 2020.
3. THIS PLAT COMPLIES WITH THE APPLICABLE STATE STATUTES AND ANY LOCAL ORDINANCES IN EFFECT ON THE DATE THAT THE GOVERNING BODY GAVE ITS FINAL APPROVAL AND THE SURVEY WAS CONDUCTED IN ACCORDANCE WITH THE PROVISIONS OF THE NEVADA ADMINISTRATIVE CODE, CHAPTER 625.
4. THE MONUMENTS DEPICTED ON THIS PLAT ARE OF THE CHARACTER SHOWN AND OCCUPY THE POSITIONS INDICATED, AND ARE OF SUFFICIENT NUMBER AND DURABILITY.



ERIC C. SAGE, PLS 23301
EXP 6/30/22
FOR AND ON BEHALF OF
ROBISON ENGINEERING CO., INC.

UTILITY COMPANIES CERTIFICATE:

THE UTILITY EASEMENTS SHOWN ON THIS PLAT TO BE GRANTED, RELINQUISHED, OR TO REMAIN HAVE BEEN APPROVED BY THE UNDERSIGNED PUBLIC UTILITY AND CABLE TV COMPANIES AND TRUCKEE MEADOWS WATER AUTHORITY.

SIERRA PACIFIC POWER COMPANY, dba NV ENERGY
BY: _____ DATE: _____

NOTARY PUBLIC ACKNOWLEDGMENT
STATE OF NEVADA)
COUNTY OF _____) s.s.

ON THIS _____ DAY OF _____, 2021, PERSONALLY APPEARED BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, KNOWN TO ME ON THE BASIS OF SATISFACTORY EVIDENCE TO BE THE PERSON WHO EXECUTED THE ABOVE INSTRUMENT FOR THE PURPOSE HEREIN STATED.

NOTARY PUBLIC

NEVADA BELL TELEPHONE COMPANY, dba AT&T NEVADA
BY: _____ DATE: _____

NOTARY PUBLIC ACKNOWLEDGMENT
STATE OF NEVADA)
COUNTY OF _____) s.s.

ON THIS _____ DAY OF _____, 2021, PERSONALLY APPEARED BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, KNOWN TO ME ON THE BASIS OF SATISFACTORY EVIDENCE TO BE THE PERSON WHO EXECUTED THE ABOVE INSTRUMENT FOR THE PURPOSE HEREIN STATED.

NOTARY PUBLIC

CHARTER COMMUNICATIONS
BY: _____ DATE: _____

NOTARY PUBLIC ACKNOWLEDGMENT
STATE OF NEVADA)
COUNTY OF _____) s.s.

ON THIS _____ DAY OF _____, 2021, PERSONALLY APPEARED BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, KNOWN TO ME ON THE BASIS OF SATISFACTORY EVIDENCE TO BE THE PERSON WHO EXECUTED THE ABOVE INSTRUMENT FOR THE PURPOSE HEREIN STATED.

NOTARY PUBLIC

TRUCKEE MEADOWS WATER AUTHORITY
-JOHN R. ZIMMERMAN, WATER RESOURCES MANAGER

NOTARY PUBLIC ACKNOWLEDGMENT
STATE OF NEVADA)
COUNTY OF _____) s.s.

ON THIS _____ DAY OF _____, 2021, PERSONALLY APPEARED BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID STATE AND COUNTY, KNOWN TO ME ON THE BASIS OF SATISFACTORY EVIDENCE TO BE THE PERSON WHO EXECUTED THE ABOVE INSTRUMENT FOR THE PURPOSE HEREIN STATED.

NOTARY PUBLIC

DIRECTOR OF PLANNING AND DEVELOPMENT CERTIFICATE:

THE FINAL MAP CASE NO. _____ MEETS ALL APPLICABLE STATUTES, ORDINANCES AND CODE PROVISIONS; IS IN SUBSTANTIAL CONFORMANCE WITH THE TENTATIVE MAP AND ITS CONDITIONS, WHICH ARE INCORPORATED HEREIN BY THIS REFERENCE, AND THOSE CONDITIONS HAVE BEEN SATISFIED FOR RECORDATION OF THIS MAP. THE OFFER(S) OF DEDICATION IS (ARE) REJECTED AT THIS TIME, BUT WILL REMAIN OPEN IN ACCORDANCE WITH NEVADA REVISED STATUTES CHAPTER 278. THIS FINAL MAP IS APPROVED AND ACCEPTED THIS _____ DAY OF _____, 2021, BY THE DIRECTOR OF PLANNING AND DEVELOPMENT OF WASHOE COUNTY, NEVADA, IN ACCORDANCE WITH NEVADA REVISED STATUTES 278.471 THROUGH 278.4725.

MOJRA HAUENSTEIN, DIRECTOR, PLANNING AND DEVELOPMENT

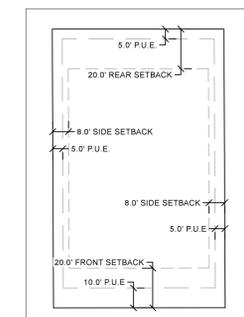
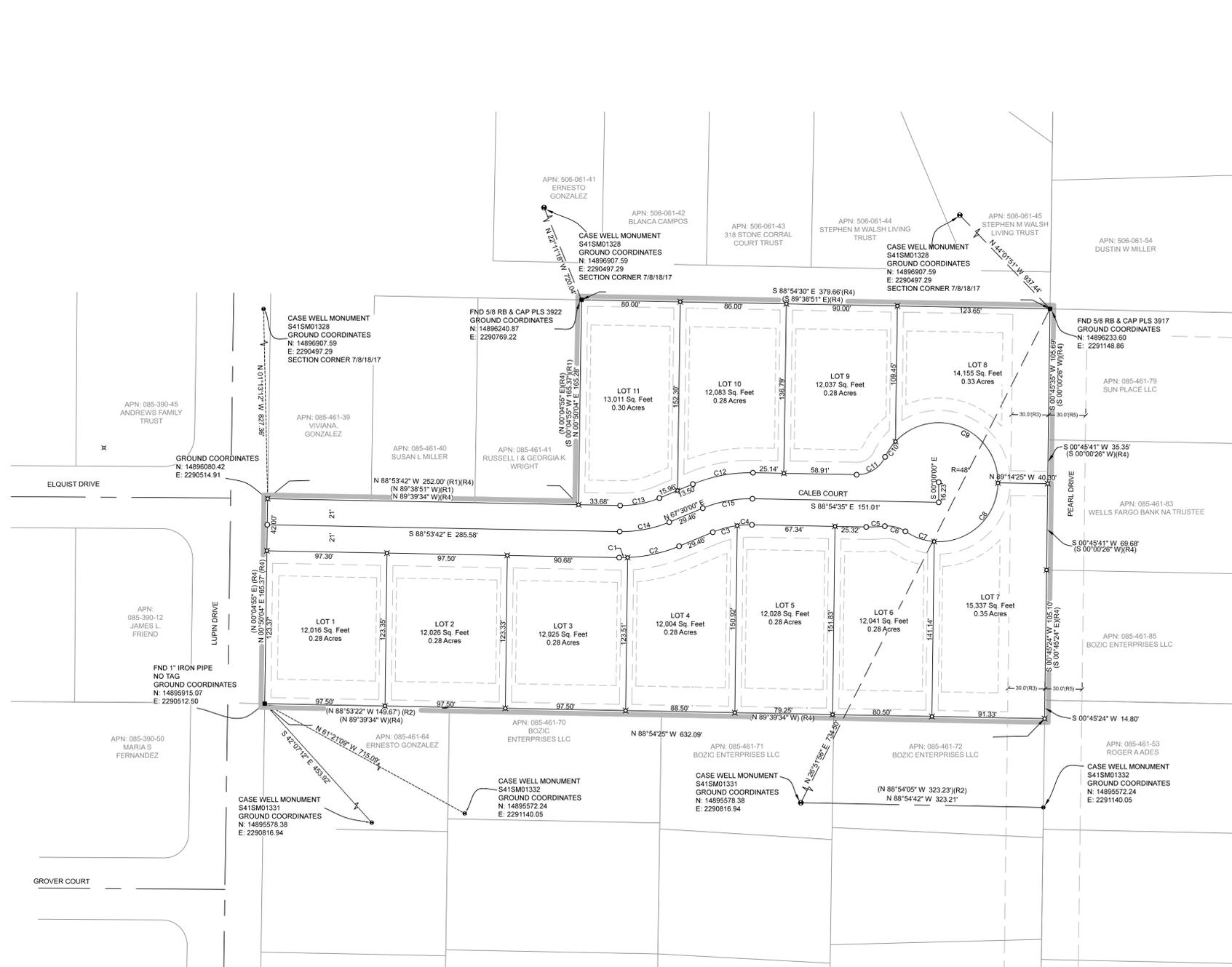
NOTES:

1. PUBLIC UTILITY AND CABLE TV EASEMENTS ARE HEREBY GRANTED, 10 FEET IN WIDTH COINCIDENT WITH ALL STREET RIGHTS-OF-WAY, 5 FEET IN WIDTH COINCIDENT WITH THE FRONT, SIDE, AND THE REAR LINES OF ALL PARCELS.
2. A PUBLIC UTILITY AND CABLE TV EASEMENT IS ALSO HEREBY GRANTED WITHIN EACH PARCEL FOR THE EXCLUSIVE PURPOSE OF INSTALLING AND MAINTAINING UTILITY AND CABLE TV FACILITIES TO SAID PARCEL AND THE RIGHT TO EXIT SAID PARCEL WITH SAID FACILITIES FOR THE PURPOSE OF SERVING OTHER PARCELS AT LOCATIONS MUTUALLY AGREED UPON BY THE OWNER OF RECORD AT THAT TIME, AND THE UTILITY AND CABLE TV COMPANIES.
3. PARCELS ARE FOR RESIDENTIAL USE.
4. THE NATURAL DRAINAGE WILL NOT BE IMPEDED DURING THE DEVELOPMENT OR IMPROVEMENT OF THESE PARCELS.
5. ANY STRUCTURES WITHIN A FEMA FLOOD ZONE MUST COMPLY WITH THE WASHOE COUNTY DEVELOPMENT CODE ARTICLE 416.
6. WITH THE DEVELOPMENT OF EACH PARCEL AND PRIOR TO THE ISSUANCE OF ANY BUILDING PERMIT FOR SAID PARCEL, THE OWNER SHALL DEDICATE WATER RIGHTS TO THE SERVICING UTILITY SUFFICIENT TO SERVE THE DEVELOPMENT AND SHALL PROVIDE WASHOE COUNTY WITH A WILL SERVE LETTER.
7. FEES FOR IMPROVEMENT PLAN CHECKING AND CONSTRUCTION INSPECTION SHALL BE IN ACCORDANCE WITH WASHOE COUNTY ORDINANCE AND SHALL BE PAID PRIOR TO THE ISSUANCE OF BUILDING PERMIT.
8. EACH PARCEL CREATED BY THIS MAP IS REQUIRED TO HAVE A SEPARATE WATER METER AND WATER SERVICE LINE. THE WATER PURVEYOR SHALL HAVE THE RIGHT TO INSTALL A WATER METER IN THE 7.5' PUBLIC UTILITY EASEMENT ADJACENT TO THE STREET TO SERVE EACH PARCEL RESPECTIVELY.
9. WASHOE COUNTY WILL PRE-ASSIGN ADDRESSES TO BE RELEASED ONCE AN ASSESSOR'S PARCEL NUMBER HAS BEEN ESTABLISHED. IF STRUCTURE PLACEMENT DOES NOT REFLECT THE STREET ON WHICH THE PRE-ASSIGNED ADDRESS IS ISSUED, THE DEVELOPER WILL REQUEST A NEW ADDRESS PRIOR TO ISSUANCE OF A BUILDING PERMIT.
10. ALL PROPERTIES, REGARDLESS IF THEY ARE LOCATED WITHIN OR OUTSIDE A FEMA DESIGNATED FLOOD ZONE, MAY BE SUBJECT TO FLOODING. THE PROPERTY OWNER IS REQUIRED TO MAINTAIN ALL DRAINAGE EASEMENTS AND NATURAL DRAINAGES AND NOT PERFORM OR ALLOW UNPERMITTED AND UNAPPROVED MODIFICATIONS TO THE PROPERTY THAT MAY HAVE DETRIMENTAL IMPACTS TO SURROUNDING PROPERTIES.
11. ACCESS TO THE PARCELS CREATED BY THIS MAP SHALL BE PROVIDED AT THE TIME OF BUILDING PERMIT APPROVAL WITH A DRIVEWAY APPROACH MEETING WASHOE COUNTY STANDARDS.
12. ALL PROPERTIES, REGARDLESS IF THEY ARE LOCATED WITHIN OR OUTSIDE OF A FEMA DESIGNATED FLOOD ZONE, MAY BE SUBJECT TO FLOODING. THE PROPERTY OWNER IS REQUIRED TO MAINTAIN ALL DRAINAGE EASEMENTS AND NATURAL DRAINAGES AND NOT PERFORM OR ALLOW UNPERMITTED AND UNAPPROVED MODIFICATIONS TO THE PROPERTY THAT MAY HAVE DETRIMENTAL IMPACTS TO SURROUNDING PROPERTIES.

FILE NO: _____
FILED FOR RECORD AT THE REQUEST OF: _____
ON THIS _____ DAY OF _____, 2021, AT _____ MINUTES PAST _____ O'CLOCK _____ M., OFFICIAL RECORDS OF WASHOE COUNTY, NEVADA.
COUNTY RECORDER
BY: _____ DEPUTY
FEE: _____

PEARL SUBDIVISION MAP FOR CALEB ASSOCIATES LLC.	
BEING A PORTION OF LOT 3 IN BLOCK B OF SUN VALLEY SUBDIVISION NO. 5 AS FILED IN TRACT MAP 573	
SITUATE WITHIN A PORTION OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 17, T. 20 N., R. 20 E., M.D.M.	
WASHOE COUNTY	NEVADA
 848 VICTORIAN AVENUE SPARKS, NV 89431 www.robisoneng.com 775-852-2251	DRAWN BY: AJK DATE: JAN 2021 PROJ. CODE: STAR WEST PROJ. #: 1137_06.001 SHEET 1 OF 2

CALEB COURT SUBDIVISION MAP



TYPICAL PARCEL EASEMENT/SETBACK LAYOUT

REFERENCES:

1. PARCEL MAP No. 264 W.C.R.
2. PARCEL MAP No. 364.3 W.C.R.
3. DOCUMENT No. 245429 W.C.O.R.
4. DOCUMENT No. 5102879 W.C.O.R.
5. DOCUMENT No. 245428 W.C.O.R.

BASIS OF BEARINGS:

THE BASIS OF BEARINGS FOR THIS PLAT IS NAD 83/94, NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, BASED ON TIES TO THE WASHOE COUNTY CONTROL POINTS SHOWN HEREON. A COMBINED GRID TO GROUND FACTOR OF 1.000197939 WAS USED. ALL DISTANCES SHOWN HEREON ARE GROUND.

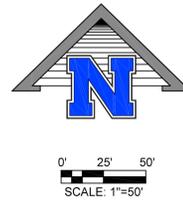
LEGEND:

- FOUND WASHOE COUNTY CONTROL MONUMENT AS NOTED
 - FOUND MONUMENT AS NOTED
 - ⊠ SET 5/8 REBAR AND PLASTIC CAP PLS 23301
 - ⊗ SET NAIL AND TAG PLS 23301
 - DIMENSION POINT, NOTHING FOUND OR SET
- P.U.E. PUBLIC UTILITY EASEMENT

AREAS:

PARCEL 1: 12,016 SQ. FT.
 PARCEL 2: 12,026 SQ. FT.
 PARCEL 3: 12,025 SQ. FT.
 PARCEL 4: 12,004 SQ. FT.
 PARCEL 5: 12,028 SQ. FT.
 PARCEL 6: 12,041 SQ. FT.
 PARCEL 7: 15,337 SQ. FT.
 PARCEL 8: 14,155 SQ. FT.
 PARCEL 9: 12,037 SQ. FT.
 PARCEL 10: 12,083 SQ. FT.
 PARCEL 11: 13,011 SQ. FT.
TOTAL AREA: 138,763 SQ. FT.
 3.19 A.C.

CURVE	DELTA	RADIUS	LENGTH	CHORD
C1	03°14'27"	121.00'	6.84'	6.84'
C2	20°21'51"	121.00'	43.01'	42.78'
C3	14°55'10"	79.00'	20.57'	20.51'
C4	08°40'15"	79.00'	11.96'	11.94'
C5	07°07'19"	121.00'	15.04'	15.03'
C6	49°17'44"	25.00'	17.58'	17.22'
C7	29°50'06"	48.00'	24.99'	24.71'
C8	9°34'10"	48.00'	78.47'	70.02'
C9	13°41'28"	48.00'	115.35'	89.53'
C10	17°54'35"	48.00'	15.00'	14.94'
C11	65°55'54"	25.00'	28.77'	27.21'
C12	23°35'25"	121.00'	49.82'	49.47'
C13	23°36'18"	79.00'	32.55'	32.32'
C14	23°36'18"	100.00'	41.20'	40.91'
C15	23°35'25"	100.00'	41.17'	40.88'



FILE NO: _____
 FILED FOR RECORD AT THE REQUEST OF: _____
 ON THIS _____ DAY OF _____
 2021, AT _____ MINUTES PAST _____
 O'CLOCK _____ M., OFFICIAL RECORDS OF WASHOE COUNTY, NEVADA.

COUNTY RECORDER _____
 BY: _____ DEPUTY
 FEE: _____

CALEB COURT SUBDIVISION MAP FOR CALEB ASSOCIATES LLC.

BEING A PORTION OF LOT 3 IN BLOCK B OF SUN VALLEY SUBDIVISION NO. 5 AS FILED IN TRACT MAP 573

SITUATE WITHIN A PORTION OF THE SOUTH 1/2 OF THE NORTHWEST 1/4 OF SECTION 17, T. 20 N., R. 20 E., M.D.M. WASHOE COUNTY NEVADA

DRAWN BY: AJK
 DATE: FEB 2021
 PROJ. CODE: STAR WEST
 PROJ. #1137 06.001
 SHEET **2** OF **2**

Robison Engineering COMPANY, INC.
 848 VICTORIAN AVENUE
 SPARKS, NV 89431
 www.robisoneng.com
 775-852-2261

S. STAMP

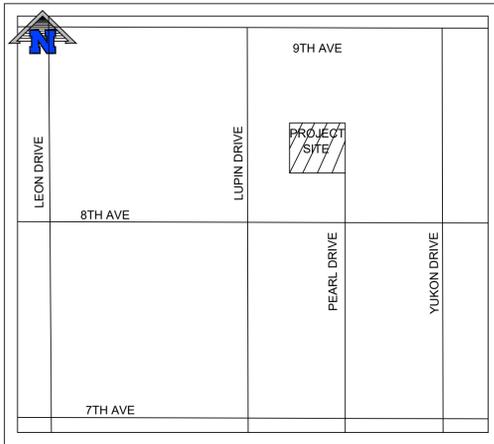
CALEB COURT SUBDIVISION

GRADING AND UTILITY PLANS IN SUPPORT OF SUBDIVISION MAP

STAR WEST HOMES

8745 TECHNOLOGY WAY STE F RENO, NV 89521

GRADING SUMMARY:	
AREA OF DISTURBANCE:	3.4 AC
CUT VOLUME:	3,800 CY
FILL VOLUME:	3,800 CY
NET VOLUME:	0 CY



VICINITY MAP
N.T.S.

GRADING NOTES

- ALL EXCAVATION AND EMBANKMENT SHALL BE IN ACCORDANCE WITH THE WASHOE COUNTY STANDARDS.
- THE CONTRACTOR SHALL MAINTAIN A DUST CONTROL PROGRAM TO INCLUDE WATERING OF OPEN AREAS AND MAINTAIN CONFORMITY WITH SECTION 40.030 OF WASHOE COUNTY AIR POLLUTION PROVISIONS.
- FINISH GRADE REPRESENTS THE ELEVATION OF THE FINISHED SURFACE. IF LOCATED IN A LOT OR COMMON AREA, THE GRADE REPRESENTS THE FINAL SURFACE. IF TOP SOIL IS TO BE PLACED, THE CONTRACTOR SHALL ADJUST THE GRADE SHOWN. IF SHOWN AT CENTERLINE, THE GRADE REPRESENTS THE FINISHED SURFACE GRADE OF THE AC. IF SHOWN AT A BUILDING PAD, THE GRADE REPRESENTS THE FINISHED GRADE AROUND THE EXTERIOR OF THE HOUSE, INCLUDING LANDSCAPING TREATMENTS. COORDINATE WITH ARCHITECT AND STRUCTURAL FOR BUILDING AREA SUBGRADE(S).
- USE EXTREME CARE WHEN WORKING AROUND EXISTING UTILITIES AND EXISTING ROADS.
- THE CONTRACTOR SHALL NOTIFY OWNER AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND ONLY AFTER A PRE-CONSTRUCTION MEETING BETWEEN OWNER, ENGINEER OF RECORD, MATERIALS TESTING LABORATORY, AND GENERAL CONTRACTOR HAS OCCURRED.
- THE INSPECTION AND TESTING OF SOILS AND ALL OTHER MATERIALS SHALL BE IN CONFORMANCE WITH WASHOE COUNTY ORANGE BOOK STANDARDS AND SITE SPECIFIC SOILS REPORT AS APPLICABLE.
- SHOULD ANY PREHISTORIC OR HISTORIC REMAINS/ARTIFACTS BE DISCOVERED DURING SITE DEVELOPMENT, WORK SHALL TEMPORARILY BE HALTED AT THE SPECIFIC SITE AND THE STATE HISTORIC PRESERVATION DEPARTMENT SHALL BE NOTIFIED TO RECORD AND PHOTOGRAPH THE SITE. THE PERIOD OF TEMPORARY DELAY SHALL BE DETERMINED BY CONSULTATION WITH THE APPROPRIATE JURISDICTION.
- ALL NATURAL VEGETATION OUTSIDE OF DISTURBANCE LIMITS TO BE PRESERVED. ALL AREA DISTURBED BY CONSTRUCTION SHALL BE STABILIZED BY ONE OF THE FOLLOWING METHODS:
 - 3" GRAVEL SURFACE
 - DRYLAND GRASS SEED MIX RAKED INTO SOIL
 - SHRUB, LAWN, OR SMALL TREE LANDSCAPING IN CONFORMANCE WITH W.U.I. CODE, AND APPROVED LANDSCAPING PLANS.

FOR THE 3:1 SLOPE SEE SEPARATE REVEGETATION PLAN. (NOT PART OF SUBDIVISION MAP REVIEW - TO BE SUBMITTED WITH GRADING PLAN PERMIT)

TOPOGRAPHIC MAP NOTES:

- BASIS OF BEARINGS: THE BASIS OF BEARINGS FOR THESE PLANS IS NAD 83 NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, WASHOE COUNTY MODIFIED GRID.
- BASIS OF ELEVATIONS: NAVD 88 PER WASHOE COUNTY BENCHMARK.

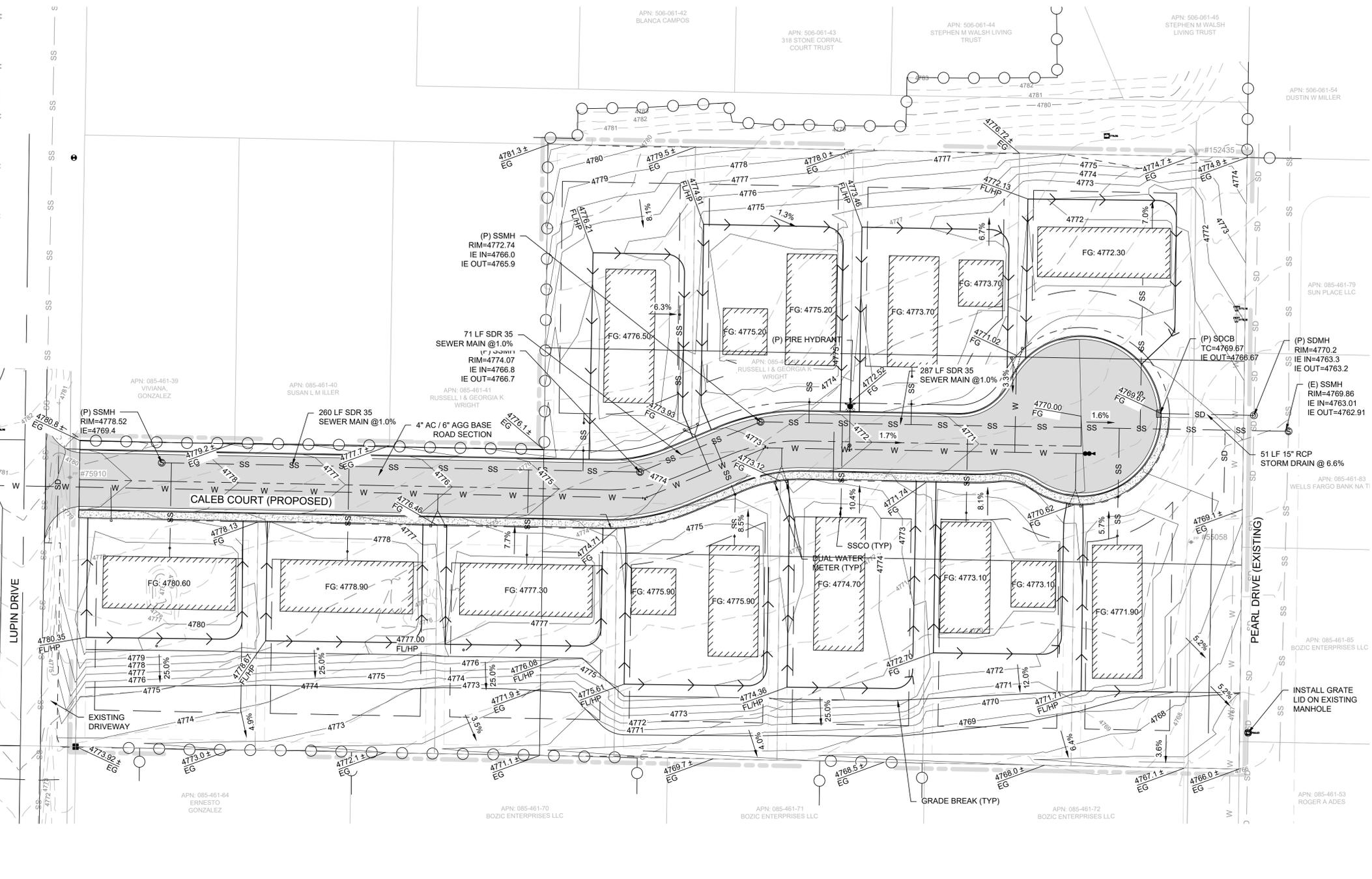
GENERAL NOTES:

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH ACCEPTED ENGINEERING PROCEDURES AND GUIDELINES, AND ARE BELIEVED TO BE IN SUBSTANTIAL COMPLIANCE WITH APPLICABLE STATUTES, CITY ORDINANCES, AND/OR COUNTY STANDARDS. IN THE EVENT OF A CONFLICT BETWEEN ANY PORTION OF THESE PLANS AND CITY STANDARDS PROMPTLY NOTIFY ENGINEER. THE COUNTY STANDARDS SHALL APPLY. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR ASSUMES SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.

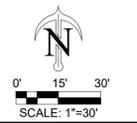
IF THE CONTRACTOR(S) OBSERVES ANY CONDITION ON THE SITE WHICH CONFLICTS WITH THE INFORMATION SHOWN HEREON, THEY SHALL CONTACT ROBISON ENGINEERING AT 775-852-2251 FOR RESOLUTION.

THE ENGINEER SHALL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE ENGINEER.

OBTAIN LATEST ELECTRONIC FILE FROM ROBISON ENGINEERING COMPANY PRIOR TO STAKING AND CONSTRUCTION.



PROJECT AUTHORITY			
OWNER CALEB ASSOCIATES, LLC 8745 Technology Way, Suite F Reno, NV 89521	DEVELOPER STAR WEST HOMES 8745 Technology Way, Suite F Reno, NV 89521 (775) 232-5879 kevin@starwesthomes.com	CIVIL ENGINEER ROBISON ENGINEERING COMPANY, INC. REBECCA C BERNIER, PE 846 Victorian Avenue, Suite 20 Sparks, NV 89431 (775) 852-2251 x 727 (775) 852-9736 fax rebecca@robisoneng.com	SURVEYOR ROBISON ENGINEERING COMPANY, INC. ERIC SAGE, PLS 846 Victorian Avenue, Suite 20 Sparks, NV 89431 (775) 852-2251 x 701 (775) 852-9736 fax sage@robisoneng.com



811
Know what's below.
Call before you dig.

CALEB CT SUBDIVISION SITE IMPROVEMENTS																			
<p>THESE PLANS AND ANY AMENDMENTS HERETO SHALL BE THE PROPERTY OF ROBISON ENGINEERING COMPANY, INC. NO PART OF THESE PLANS SHALL BE REPRODUCED, COPIED, OR TRANSMITTED IN ANY FORM OR BY ANY MEANS, WITHOUT THE WRITTEN PERMISSION OF ROBISON ENGINEERING COMPANY, INC.</p> <p>PREPARED FOR: STAR WEST HOMES 8745 TECHNOLOGY WAY SUITE F RENO, NV 89521 (775) 232-5879</p> <p>DATE: 2021-02-11</p>	<p>WASHOE COUNTY PROJECT NO: 11-197-06-002</p> <p style="text-align: center;">NEVADA</p> <p style="text-align: center;">1" = 40' 1/2" = 20'</p> <p style="text-align: center;">PRELIMINARY NOT FOR CONSTRUCTION</p> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th>NO</th> <th>DESCRIPTION</th> <th>DATE</th> <th>BY</th> <th>CHKD</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>RECONFIGURE LAYOUT PER SVGD</td> <td>2/11/21</td> <td>RCB</td> <td>RCB</td> </tr> </tbody> </table> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th colspan="2">REFERENCES</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>RECONFIGURE LAYOUT PER SVGD</td> </tr> </tbody> </table> <table border="1" style="width: 100%; text-align: center;"> <thead> <tr> <th colspan="2">REVISIONS</th> </tr> </thead> <tbody> <tr> <td> </td> <td> </td> </tr> </tbody> </table> <p style="text-align: center;">APPROVALS</p> <p style="text-align: center; font-size: 24pt;">C1</p> <p style="text-align: center;">SHEET 1 OF 1</p>	NO	DESCRIPTION	DATE	BY	CHKD	1	RECONFIGURE LAYOUT PER SVGD	2/11/21	RCB	RCB	REFERENCES		1	RECONFIGURE LAYOUT PER SVGD	REVISIONS			
NO	DESCRIPTION	DATE	BY	CHKD															
1	RECONFIGURE LAYOUT PER SVGD	2/11/21	RCB	RCB															
REFERENCES																			
1	RECONFIGURE LAYOUT PER SVGD																		
REVISIONS																			

C:\Users\lucash\OneDrive\Documents\2020\Civil\Projects\Caleb Court\Grading\Grading Plans - TL.dwg, 2/11/2021, 12:40:08 PM, S:\SCHNEIDER

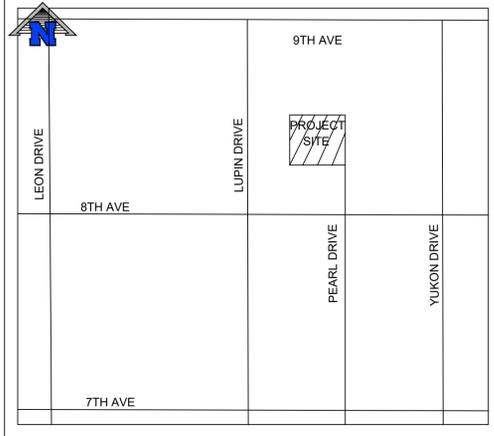
CALEB COURT SUBDIVISION

GRADING AND UTILITY PLANS IN SUPPORT OF SUBDIVISION MAP

STAR WEST HOMES

8745 TECHNOLOGY WAY STE F RENO, NV 89521

GRADING SUMMARY:	
AREA OF DISTURBANCE:	3.4 AC
CUT VOLUME:	3,800 CY
FILL VOLUME:	3,800 CY
NET VOLUME:	0 CY



VICINITY MAP
N.T.S.

GRADING NOTES

1. ALL EXCAVATION AND EMBANKMENT SHALL BE IN ACCORDANCE WITH THE WASHOE COUNTY STANDARDS.
2. THE CONTRACTOR SHALL MAINTAIN A DUST CONTROL PROGRAM TO INCLUDE WATERING OF OPEN AREAS AND MAINTAIN CONFORMITY WITH SECTION 40.030 OF WASHOE COUNTY AIR POLLUTION PROVISIONS.
3. FINISH GRADE REPRESENTS THE ELEVATION OF THE FINISHED SURFACE. IF LOCATED IN A LOT OR COMMON AREA, THE GRADE REPRESENTS THE FINAL SURFACE. IF TOP SOIL IS TO BE PLACED, THE CONTRACTOR SHALL ADJUST THE GRADE SHOWN TO BE SHOWN AT CENTERLINE. THE GRADE REPRESENTS THE FINISHED SURFACE GRADE OF THE AC. IF SHOWN AT A BUILDING PAD, THE GRADE REPRESENTS THE FINISHED GRADE AROUND THE EXTERIOR OF THE HOUSE, INCLUDING LANDSCAPING TREATMENTS. COORDINATE WITH ARCHITECT AND STRUCTURAL FOR BUILDING AREA SUBGRADE(S).
4. USE EXTREME CARE WHEN WORKING AROUND EXISTING UTILITIES AND EXISTING ROADS.
5. SEE EROSION CONTROL NOTES FOR STORMWATER DISCHARGE PERMIT REQUIREMENTS.
6. THE CONTRACTOR SHALL NOTIFY OWNER AT LEAST 48 HOURS PRIOR TO COMMENCEMENT OF WORK AND ONLY AFTER A PRE-CONSTRUCTION MEETING BETWEEN OWNER, ENGINEER OF RECORD, MATERIALS TESTING LABORATORY, AND GENERAL CONTRACTOR HAS OCCURRED.
7. THE INSPECTION AND TESTING OF SOILS AND ALL OTHER MATERIALS SHALL BE IN CONFORMANCE WITH WASHOE COUNTY ORANGE BOOK STANDARDS AND SITE SPECIFIC SOILS REPORT AS APPLICABLE.
8. SHOULD ANY PREHISTORIC OR HISTORIC REMAINS/ARTIFACTS BE DISCOVERED DURING SITE DEVELOPMENT, WORK SHALL TEMPORARILY BE HALTED AT THE SPECIFIC SITE AND THE STATE HISTORIC PRESERVATION DEPARTMENT SHALL BE NOTIFIED TO RECORD AND PHOTOGRAPH THE SITE. THE PERIOD OF TEMPORARY DELAY SHALL BE DETERMINED BY CONSULTATION WITH THE APPROPRIATE JURISDICTION.
9. ALL NATURAL VEGETATION OUTSIDE OF DISTURBANCE LIMITS TO BE PRESERVED. ALL AREA DISTURBED BY CONSTRUCTION SHALL BE STABILIZED BY ONE OF THE FOLLOWING METHODS:
 - 1) 3" GRAVEL SURFACE
 - 2) DRYLAND GRASS SEED MIX RAKED INTO SOIL
 - 3) SHRUB, LAWN, OR SMALL TREE LANDSCAPING IN CONFORMANCE WITH W.U.I. CODE, AND APPROVED LANDSCAPING PLANS.

FOR THE 3:1 SLOPE SEE SEPARATE VEGETATION PLAN. (NOT PART OF SUBDIVISION MAP REVIEW - TO BE SUBMITTED WITH GRADING PLAN PERMIT)

TOPOGRAPHIC MAP NOTES:

- 1) BASIS OF BEARINGS: THE BASIS OF BEARINGS FOR THESE PLANS IS NAD 83 NEVADA STATE PLANE COORDINATE SYSTEM, WEST ZONE, WASHOE COUNTY MODIFIED GROUND.
- 2) BASIS OF ELEVATIONS: NAVD 88 PER WASHOE COUNTY BENCHMARK.

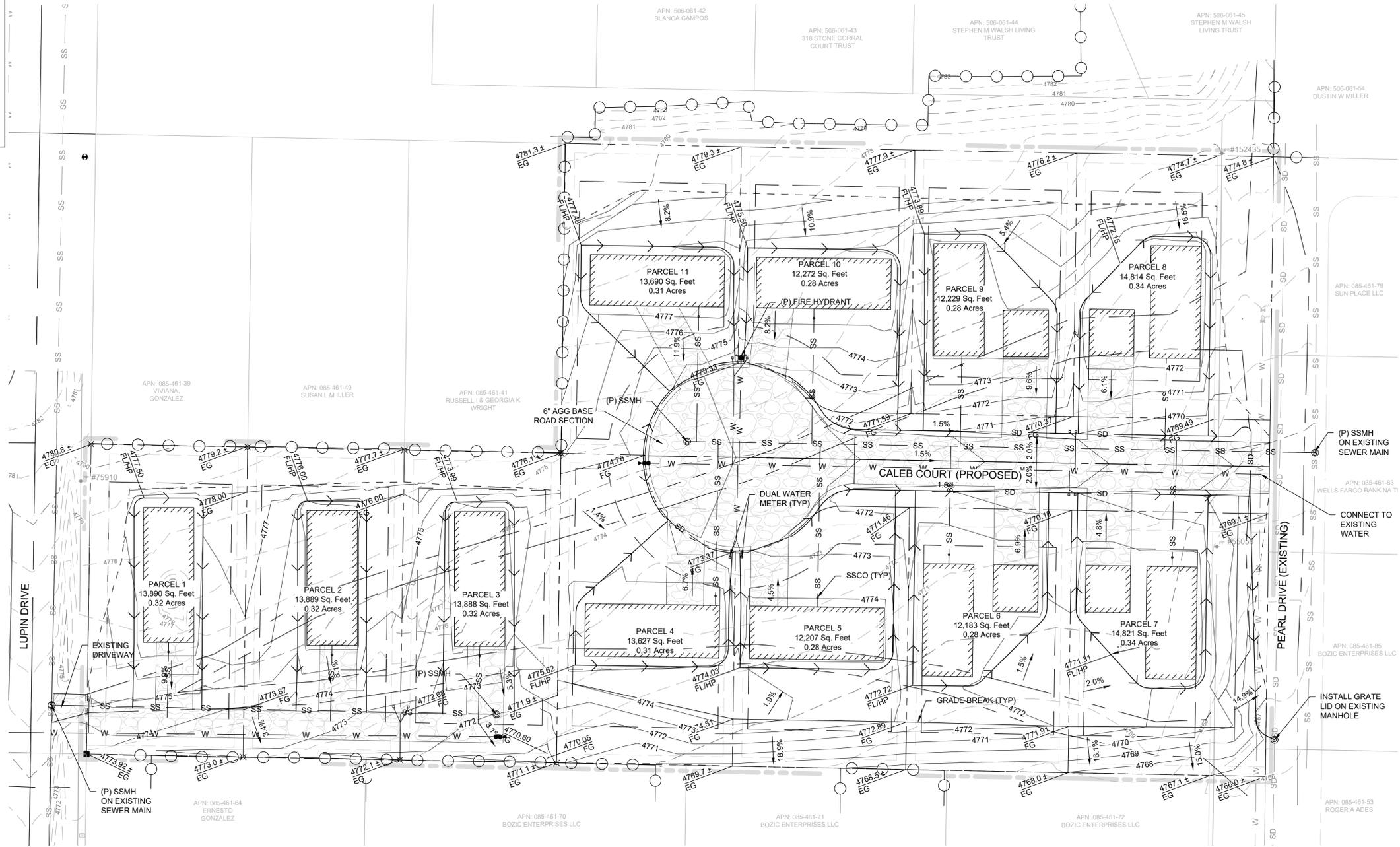
GENERAL NOTES:

THESE PLANS HAVE BEEN PREPARED IN ACCORDANCE WITH ACCEPTED ENGINEERING PROCEDURES AND GUIDELINES, AND ARE BELIEVED TO BE IN SUBSTANTIAL COMPLIANCE WITH APPLICABLE STATUTES, CITY ORDINANCES, AND/OR COUNTY STANDARDS. IN THE EVENT OF A CONFLICT BETWEEN ANY PORTION OF THESE PLANS AND CITY STANDARDS PROMPTLY NOTIFY ENGINEER. THE COUNTY STANDARDS SHALL APPLY. IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES, CONTRACTOR ASSUMES SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION, INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THIS REQUIREMENT SHALL BE MADE TO APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS, AND CONTRACTOR FURTHER AGREES TO DEFEND, INDEMNIFY AND HOLD OWNER AND ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.

IF THE CONTRACTOR(S) OBSERVES ANY CONDITION ON THE SITE WHICH CONFLICTS WITH THE INFORMATION SHOWN HEREON, THEY SHALL CONTACT ROBISON ENGINEERING AT 775-852-2251 FOR RESOLUTION.

THE ENGINEER SHALL NOT BE RESPONSIBLE FOR, OR LIABLE FOR, UNAUTHORIZED CHANGES TO OR USES OF THESE PLANS. ALL CHANGES TO THE PLANS MUST BE IN WRITING AND MUST BE APPROVED BY THE ENGINEER.

OBTAIN LATEST ELECTRONIC FILE FROM ROBISON ENGINEERING COMPANY PRIOR TO STAKING AND CONSTRUCTION.



CALEB CT SUBDIVISION
 PROJECT SUBTITLE
 C1
 GRADING AND UTILITY PLAN
 WASHOE COUNTY
 PROJECT NO: 11-137-06-002
 NEVADA

THE BEST COPY OF THIS PLAN SHALL BE PROVIDED TO THE ENGINEER OF RECORD AND THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND AGREEMENTS.

PREPARED FOR:
 STAR WEST HOMES
 8745 TECHNOLOGY WAY
 SUITE F
 RENO NV 89521
 (775) 232-5879

DRAWN: RCB
 DATE: 2021-01-08

PRELIMINARY
NOT FOR
CONSTRUCTION

NO	DATE	BY	CHKD	DESCRIPTION

REFERENCES

NO	DATE	BY	CHKD	DESCRIPTION

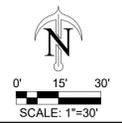
REVISIONS

NO	DATE	BY	CHKD	DESCRIPTION

APPROVALS

C1
SHEET 1 OF #

PROJECT AUTHORITY			
OWNER CALEB ASSOCIATES, LLC 8745 Technology Way, Suite F Reno, NV 89521	DEVELOPER STAR WEST HOMES 8745 Technology Way, Suite F Reno, NV 89521 (775) 232-5879 kevin@starwesthomes.com	CIVIL ENGINEER ROBISON ENGINEERING COMPANY, INC. REBECCA C BERNIER, PE 846 Victorian Avenue, Suite 20 Sparks, NV 89431 (775) 852-2251 x 727 (775) 852-9736 fax rebecca@robisoneng.com	SURVEYOR ROBISON ENGINEERING COMPANY, INC. ERIC SAGE, PLS 846 Victorian Avenue, Suite 20 Sparks, NV 89431 (775) 852-2251 x 701 (775) 852-9736 fax sage@robisoneng.com



C:\Users\rbarnes\OneDrive\Documents\11-137-06-002\CAD\11-137-06-002-01.dwg 11/18/2021 10:07:10 AM REBERNER